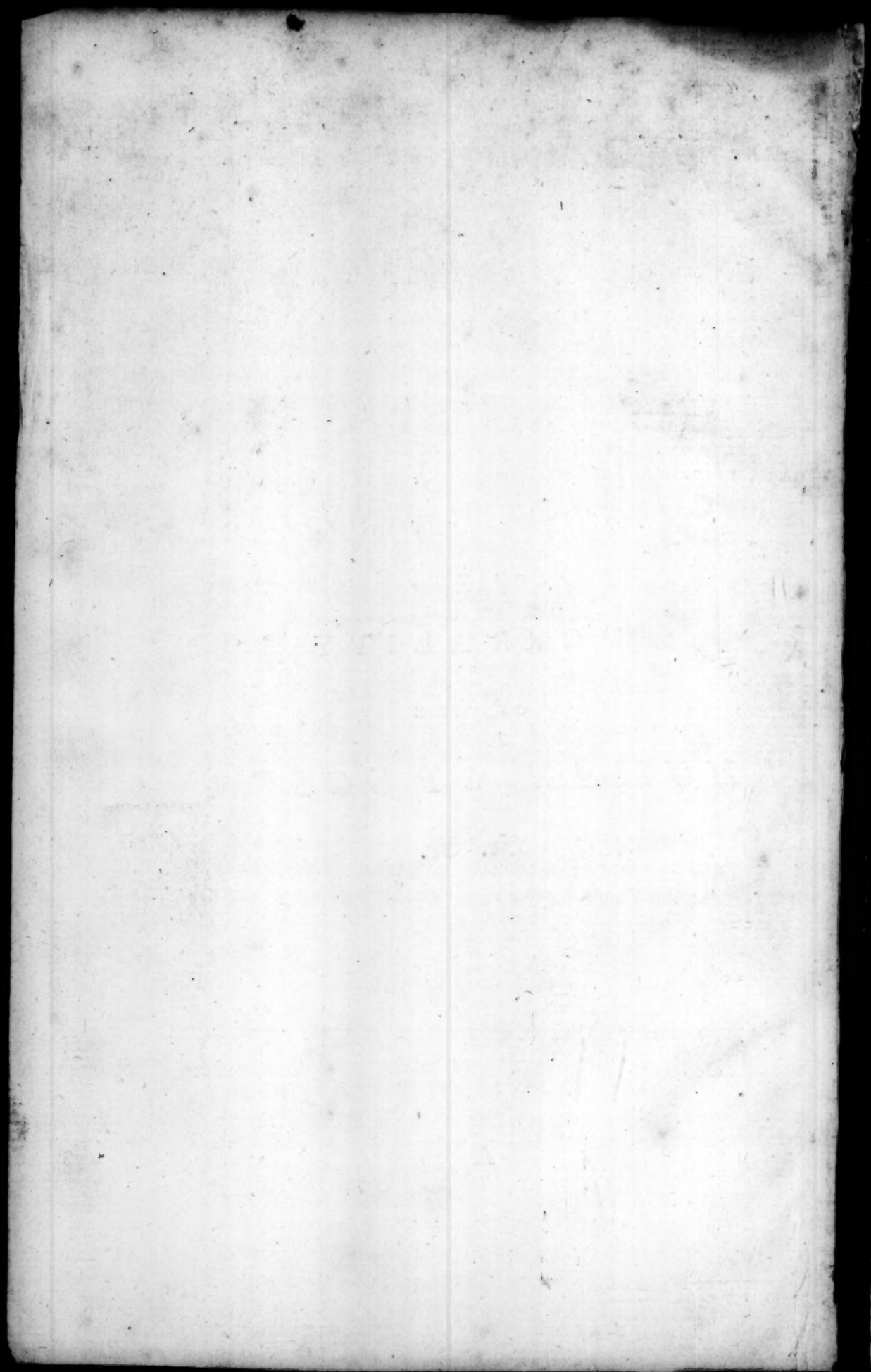


COMPARATIVE VIEW
OF THE
MORTALITY
OF THE
HUMAN SPECIES,
&c. &c.

A



A
Comparative View
OF THE
MORTALITY
OF THE
HUMAN SPECIES,
AT ALL AGES;

AND OF THE
DISEASES AND CASUALTIES
By which they are destroyed or annoyed.

ILLUSTRATED WITH
CHARTS AND TABLES.

BY WILLIAM BLACK, M.D.
ONE OF THE ROYAL COLLEGE OF PHYSICIANS IN LONDON;
MEMBER OF SEVERAL LITERARY SOCIETIES, &c.

Published at the unanimous Request of the MEDICAL SOCIETY of London.

L O N D O N:
Printed for C. DILLY, in the Poultry.

1788.

11358 Bi



DEDICATION.

TO
HIS ROYAL HIGHNESS
GEORGE Prince of Wales.

May it please your ROYAL HIGHNESS,

A Young and celebrated Prince, before his first Military Expedition, interrogated one of his experienced Relations and Instructors, How he should conduct himself to be respected and obeyed by his Army?—“To know more of the Profession than any “of your Soldiers,” was the sage Reply; and to the renowned Cyrus, the Conqueror of the Babylonians. This Maxim is, in some Degree, applicable and pertinent throughout all the Gradations and Scale of Society. A Prince, born to the Throne of a mighty Empire, pre-eminent in its Political Constitution, and in the universal Range of the Arts and Sciences, is urged by his Personal Dignity and Public Duty, to aspire to the intrinsic Qualifications of Human Supremacy.

In the present small Tribute of Duty and Respect, I am not submitting to your Royal Highness a dry, technical Analysis of Diseases. An enlarged Survey of Medicine is intimately interwoven with most of the sublime Objects, not only of Philosophy, but, in our original Chart and Model, of Politicks also and Legislation, both in Peace and War. It transcends the British Poet's Limitation of Human Studies, the Knowledge of Man: it embraces a Scope of Natural Knowledge far beyond any other of the learned Professions; encompassing in its spacious Orbit most of the grand Divisions of Science. A total Ignorance in this, would leave a dreary Chasm in Literature; and, like the ancient Geography, the Map and Globe of intellectual Discoveries would be half unexplored.

In early Ages, when Medicine had not reached beyond the Merit of a few Empirical Cures, the Consultation in consecrated Temples of Medical Oracles was ingrafted with Divinity and Objects of Worship. The Rays of Majesty were not then obstructed from cherishing this tender Shoot. From the encouragement of Alexander, Aristotle's Natural History had its Origin. From the Patronage of his Successors to the Egyptian Throne, the Ptolemys, first arose Human Anatomy, together with the magnificent Alexandrian Library. Many of the first Miracles of Christianity are a Display of Medical Omnipotence. By several of the Asiatic and Roman Emperors, their Physicians were admitted to a Familiarity, and to their Tables: their Archiaters, or Royal Physicians, held the Second Rank in the Empire; and even, so late as Constantine, were
created

D E D I C A T I O N. vii

created Counts. The Arabians, Mahomet's Successors, were unbounded in their Rewards and Encouragement of Medicine. With the Destruction of the Roman Empire, Science lay many Centuries buried in its Ashes. But on the Recovery from Feudal Anarchy, and the Revival of Literature after the Crusades, those raised to the Degree of Doctor in any of the learned Professions, contended Precedence with the most respectable then in any European State, with Military Knighthood.

In Britain, and most other Kingdoms of Europe, Italy excepted, Literature of any Sort, of Native Growth, is but a modern Plant. Medicine in this Island is an Exotic, until within the last Three Centuries; and since that Period, seems to have scrambled into Consequence and Emolument, from its own intrinsic Merit, and the public Encouragement. For Truth compels me to observe, that the Favours and Honours of Majesty have been measured out, even to the Benefactors of Science and of Mankind, in this Profession, with a parsimonious and partial Hand. I do not presume to arraign the Wisdom or Justice of your Royal Ancestors, but of their Counsellors and Ministers; in whom there seems a Sort of epidemical or entailed Infatuation and Bigotry to lavish the first Honours of the State upon the Memory of dry Laws, and the specious Accomplishments of Logick and Rhetorick.

Your Royal Highness is at present, through the bountiful Beneficence of Nature, and the variegated Acquisitions of Education, endowed with most of the

viii D E D I C A T I O N.

preliminary Embellishments requisite in your exalted Station, and to a Summit of Celebrity and Admiration. The Rudiments, Difficulties, and Acclivities are surmounted, and leave you an uninterrupted Range through Parnassus, in the Fruition of the luxurious Feasts furnished by Apollo and the Muses. In a political View, and in their public Administration throughout all the Professions, and Medicine notoriously, there are numerous Defects and Abuses originating from the Ignorance and Inexperience of former Ages, the Corruptions and Innovations of Time, and from various other Causes. With thousands of these remediable Diseases, the most enlightened Nations are yet over-run and contaminated; and a Monarch who would emulate a Trajan or an Aurelius, will find glorious Employment as a Political Physician. He will have the divine Consolation and Reflection of circulating his Knowledge through innumerable Channels, to the Benefit, Happiness, Nuture, and Preservation of Millions of Mankind.

I have the Honour to remain,

with profound Respect and Esteem,

Your HIGHNESS's

most humble and obedient Servant,

WILLIAM BLACK.

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ИД К У Л И Т И В Р Т А Н

A GENERAL CHART, with different Tables,

Exhibiting the Gradations of Mortality in City and Country.

Shewing the Probability of the Duration of Life in LONDON, deduced by Mr. Simpson, from Observations on the Bills of Mortality in London for Ten Years, from 1728 to 1737. The total Number of Inhabitants, probably, about 650,000 in Winter. One Half born died under Three Years of Age.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1000 | 320 | 10 | 410 | 5 |
| 1 | 680 | 333 | 11 | 405 | 5 |
| 2 | 447 | 351 | 12 | 400 | 5 |
| 3 | 496 | 27 | 13 | 395 | 5 |
| 4 | 469 | 17 | 14 | 390 | 5 |
| 5 | | | 15 | 385 | 5 |
| 6 | | | 16 | 380 | 5 |
| 7 | | | 17 | 375 | 5 |
| 8 | | | 18 | 370 | 5 |
| 9 | | | 19 | 365 | 5 |
| 10 | | | 20 | 360 | 5 |
| 11 | | | 21 | 355 | 5 |
| 12 | | | 22 | 350 | 5 |
| 13 | | | 23 | 345 | 5 |
| 14 | | | 24 | 339 | 6 |
| 15 | | | 25 | 333 | 6 |
| 16 | | | 26 | 327 | 6 |

Shewing the Probabilities of Life in LONDON for all Ages. Formed from the Bills for Ten Years, from 1759 to 1768. By Dr. Price.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1018 | 486 | 10 | 567 | 9 |
| 1 | 1032 | 200 | 11 | 558 | 9 |
| 2 | 832 | 85 | 12 | 549 | 8 |
| 3 | 747 | 59 | 13 | 541 | 7 |
| 4 | 688 | 42 | 14 | 534 | 6 |
| 5 | | | 15 | 528 | 6 |
| 6 | | | 16 | 522 | 7 |
| 7 | | | 17 | 515 | 7 |
| 8 | | | 18 | 508 | 7 |
| 9 | | | 19 | 501 | 7 |
| 10 | | | 20 | 494 | 7 |
| 11 | | | 21 | 487 | 8 |
| 12 | | | 22 | 479 | 8 |
| 13 | | | 23 | 471 | 8 |
| 14 | | | 24 | 463 | 8 |
| 15 | | | 25 | 455 | 8 |
| 16 | | | 26 | 447 | 8 |
| 17 | | | 27 | 439 | 8 |
| 18 | | | 28 | 431 | 9 |
| 19 | | | 29 | 422 | 9 |
| 30 | | | 30 | 413 | 9 |

Shewing the Probabilities of Life at VIENNA. Formed from the Bills for Eight Years, as given by Mr. Sufmilch, in his *Gottliche Ordnung*. Contains upwards of 200,000 Inhabitants. One Half born died under Three Years of Age.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1495 | 682 | 10 | 489 | 6 |
| 1 | 107 | 107 | 11 | 483 | 5 |
| 2 | 706 | 61 | 12 | 478 | 5 |
| 3 | 645 | 46 | 13 | 473 | 5 |
| 4 | 599 | 33 | 14 | 467 | 6 |
| 5 | | | 15 | 461 | 6 |
| 6 | | | 16 | 455 | 7 |
| 7 | | | 17 | 448 | 6 |
| 8 | | | 18 | 442 | 6 |
| 9 | | | 19 | 436 | 6 |
| 10 | | | 20 | 430 | 5 |
| 11 | | | 21 | 425 | 5 |
| 12 | | | 22 | 420 | 5 |
| 13 | | | 23 | 415 | 5 |
| 14 | | | 24 | 409 | 6 |
| 15 | | | 25 | 403 | 6 |
| 16 | | | 26 | 397 | 6 |
| 17 | | | 27 | 391 | 7 |
| 18 | | | 28 | 381 | 7 |
| 19 | | | 29 | 377 | 7 |
| 30 | | | 30 | 370 | 6 |

Shewing the Probabilities of Life at BERNE. Formed from the Bills from Four Years, from 1752 to 1755. Given by Mr. Sufmilch, in his *Gottliche Ordnung*. Contains upwards of 134,000 Inhabitants. Half die under Three Years of Age.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1427 | 524 | 10 | 507 | 5 |
| 1 | 903 | 151 | 11 | 502 | 4 |
| 2 | 752 | 151 | 12 | 498 | 4 |
| 3 | 691 | 73 | 13 | 494 | 4 |
| 4 | 618 | 45 | 14 | 490 | 4 |
| 5 | | | 15 | 486 | 4 |
| 6 | | | 16 | 482 | 5 |
| 7 | | | 17 | 477 | 5 |
| 8 | | | 18 | 472 | 5 |
| 9 | | | 19 | 467 | 6 |
| 10 | | | 20 | 461 | 6 |
| 11 | | | 21 | 455 | 6 |
| 12 | | | 22 | 449 | 6 |
| 13 | | | 23 | 443 | 7 |
| 14 | | | 24 | 436 | 8 |
| 15 | | | 25 | 428 | 9 |
| 16 | | | 26 | 421 | 9 |
| 17 | | | 27 | 412 | 9 |
| 18 | | | 28 | 403 | 9 |
| 19 | | | 29 | 394 | 9 |
| 30 | | | 30 | 385 | 9 |

Dr. SHORT's Table, from January 1st, 1728, to 1743; a Period of Fifteen Years. Died by the London Bills, at all Ages, taken at an Annual Medium, in the following Proportions.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 81 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Total Annual Medium of Deaths in this Period } 27,058

A Table of Thirty Years, taken from the London Bills, beginning with 1728, and ending with 1757; shewing the Total Number of Deaths and Decrease in this Period, at every Age.

| Years of Age. | Died. |
|---------------|--------|
| Under 2 | 272903 |
| 2 to 5 | 64745 |
| 5 to 10 | 25912 |
| 10 to 20 | 22891 |
| 20 to 30 | 58474 |
| 30 to 40 | 71502 |
| 40 to 50 | 73258 |
| 50 to 60 | 59872 |
| 60 to 70 | 47269 |
| 70 to 80 | 33679 |
| 80 to 90 | 16948 |
| 90 to 100 | 2496 |
| 100 to 138 | 242 |

Total Deaths in this Period, at all Ages } 750,191

Shewing the Probabilities of Life in a COUNTRY PARISH IN BRANDENBURG. Formed from the Bills for Fifty Years, from 1710 to 1759, as given by Mr. Sufmilch, in his *Gottliche Ordnung*. One Half born lived to 25 Years of Age.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1000 | 225 | 10 | 577 | 7 |
| 1 | 775 | 57 | 11 | 570 | 6 |
| 2 | 718 | 31 | 12 | 564 | 5 |
| 3 | 687 | 23 | 13 | 559 | 5 |
| 4 | 664 | 22 | 14 | 554 | 5 |
| 5 | | | 15 | 549 | 5 |
| 6 | | | 16 | 544 | 5 |
| 7 | | | 17 | 539 | 4 |
| 8 | | | 18 | 535 | 4 |
| 9 | | | 19 | 531 | 4 |
| 10 | | | 20 | 527 | 5 |
| 11 | | | 21 | 522 | 5 |
| 12 | | | 22 | 517 | 5 |
| 13 | | | 23 | 512 | 5 |
| 14 | | | 24 | 507 | 5 |
| 15 | | | 25 | 502 | 4 |
| 16 | | | 26 | 498 | 3 |
| 17 | | | 27 | 493 | 3 |
| 18 | | | 28 | 489 | 3 |
| 19 | | | 29 | 486 | 4 |
| 30 | | | 30 | 486 | 4 |

Shewing the Probabilities of Life in the Parish of HOLY CROSS, near Shrewsbury, in England. Formed from a Register kept by the Rev. Mr. Gorfuch for Twenty Years, from 1750 to 1770. One Half born lived to 27 Years of Age.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1000 | 189 | 10 | 589 | 4 |
| 1 | 811 | 46 | 11 | 585 | 4 |
| 2 | 762 | 45 | 12 | 581 | 4 |
| 3 | 717 | 35 | 13 | 577 | 4 |
| 4 | 682 | 23 | 14 | 573 | 4 |
| 5 | | | 15 | 569 | 4 |
| 6 | | | 16 | 565 | 4 |
| 7 | | | 17 | 560 | 5 |
| 8 | | | 18 | 555 | 5 |
| 9 | | | 19 | 550 | 5 |
| 10 | | | 20 | 545 | 6 |
| 11 | | | 21 | 539 | 7 |
| 12 | | | 22 | 532 | 7 |
| 13 | | | 23 | 525 | 7 |
| 14 | | | 24 | 518 | 6 |
| 15 | | | 25 | 512 | 6 |
| 16 | | | 26 | 506 | 5 |
| 17 | | | 27 | 501 | 5 |
| 18 | | | 28 | 496 | 5 |
| 19 | | | 29 | 491 | 5 |
| 30 | | | 30 | 486 | 5 |

Shewing the Probabilities of Life in the District of VAUD, in SWITZERLAND. Formed from the Registers of Forty-three Years, from 1728 to 1770. Given by Mr. Muret, in the *First Bern Memoirs* for the Year 1766. Country Province were 112,951 Inhabitants. One Half born lived to the Age of 27 Years.

| Ages. | Persons living. | Decr. of life. | Ages. | Persons living. | Decr. of life. |
|-------|-----------------|----------------|-------|-----------------|----------------|
| 0 | 1000 | 189 | 10 | 653 | 5 |
| 1 | 811 | 46 | 11 | 648 | 5 |
| 2 | 765 | 30 | 12 | 643 | 5 |
| 3 | 735 | 20 | 13 | 639 | 4 |
| 4 | 715 | 14 | 14 | 635 | 4 |
| 5 | | | 15 | 631 | 5 |
| 6 | | | 16 | 626 | 4 |
| 7 | | | 17 | 622 | 4 |
| 8 | | | 18 | 618 | 4 |
| 9 | | | 19 | 614 | 4 |
| 10 | | | 20 | 610 | 4 |
| 11 | | | 21 | 606 | 4 |
| 12 | | | 22 | 602 | 5 |
| 13 | | | 23 | 597 | 5 |
| 14 | | | 24 | 592 | 5 |
| 15 | | | 25 | 587 | 5 |
| 16 | | | 26 | 582 | 5 |
| 17 | | | 27 | 577 | 5 |
| 18 | | | 28 | 572 | 5 |
| 19 | | | 29 | 567 | 4 |
| 30 | | | 30 | 563 | 5 |

A GENERAL CHART, with different Tables,

Exhibiting the Gradations of Mortality in City and Country.

Shewing the Probability of the Duration of Life in LONDON, deduced by Mr. Simpson, from Observations on the Bills of Mortality in London for Ten Years, from 1728 to 1737. The total Number of Inhabitants, probably, about 650,000 in Winter. One Half born died under Three Years of Age.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Dr. SHORT's Table, from January 1st, 1728, to 1743; a Period of Fifteen Years. Died by the London Bills, at all Ages, taken at an Annual Medium, in the following Proportions.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

A Table of Thirty Years, taken from the London Bills, beginning with 1728, and ending with 1757; shewing the Total Number of Deaths and Decrease in this Period, at every Age.

| Years of Age. | Died. |
|---------------|--------|
| Under 2 | 272903 |
| 2 to 5 | 64745 |
| 5 to 10 | 25912 |
| 10 to 20 | 22891 |
| 20 to 30 | 58474 |
| 30 to 40 | 71502 |
| 40 to 50 | 73258 |
| 50 to 60 | 59872 |
| 60 to 70 | 47269 |
| 70 to 80 | 33679 |
| 80 to 90 | 16948 |
| 90 to 100 | 2496 |
| 100 to 110 | 242 |

Shewing the Probabilities of Life in LONDON for all Ages. Formed from the Bills for Ten Years, from 1759 to 1768. By Dr. Price.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Shewing the Probabilities of Life at VIENNA. Formed from the Bills for Eight Years, as given by Mr. Sufmilch, in his *Gottliche Ordnung*. Contains upwards of 200,000 Inhabitants. One Half born died under Three Years of Age.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Shewing the Probabilities of Life at BERLIN. Formed from the Bills for Four Years, from 1752 to 1755. Given by Mr. Sufmilch, in his *Gottliche Ordnung*. Contains 134,000 Inhabitants. Half die under Three Years of Age.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Shewing the Probabilities of Life in a COUNTRY PARISH IN BRANDENBURG. Formed from the Bills for Fifty Years, from 1710 to 1759, as given by Mr. Sufmilch, in his *Gottliche Ordnung*. One Half born lived to 25 Years of Age.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Shewing the Probabilities of Life in the Parish of HOLY CROSS, near Shrewsbury, in England. Formed from a Register kept by the Rev. Mr. Gorfuch for Twenty Years, from 1750 to 1770. One Half born lived to 27 Years of Age.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

Shewing the Probabilities of Life in the Country District of VAUD, in SWITZERLAND, from the Registers of Forty-three Parishes. Given by Mr. Muret, in the First Part of the *Bern Memoirs* for the Year 1766. In this Country Province were 112,951 Inhabitants; and one Half born lived to the Age of 41.

| Years of Age. | Died. |
|---------------|-------|
| Under 2 | 9910 |
| 2 to 5 | 2411 |
| 5 to 10 | 980 |
| 10 to 20 | 851 |
| 20 to 30 | 2060 |
| 30 to 40 | 2471 |
| 40 to 50 | 2510 |
| 50 to 60 | 2231 |
| 60 to 70 | 1675 |
| 70 to 80 | 1200 |
| 80 to 90 | 634 |
| 90 to 100 | 117 |

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A

Comparative View, &c.

INTRODUCTION.

A Sketch of our Planet's Station, Rotation, and Rank amongst the other Celestial Orbs; and of its Investing Elements: — of the Habitable Parts of our Planet: the Number of the Human Species, and their Division into various Classes, Genera, Groups, and Gradations: their Comparative Births.

THERE are two methods of promoting Medical Knowledge: one by negative information, or criticisms on the numerous errors of preceding authors: the other by direct instruction, and improvement on former models. The first method is worn

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out

out in hackneyed chimes : the second is encumbered with infinitely more difficulties ; and its merits paramount in the superlative degree. However unequal I have imposed upon myself the latter task. But, previous to the discussion of the general theme, it will conduce to order, and to the anticipation of explanatory digression and illustration, to glance at the station, rotation, and rank of our Parent Planet amongst the other celestial orbs ; at its investing elements ; and at the number, groups, and recruit of mankind. A navigator or historian, who undertakes the description of any island, kingdom, or continent, commences with their geographical outlines and climate, penetrating afterwards thorough a scrutiny of the inhabitants. Upon a similar, but more majestic model, our Introductory Preface is founded. Throughout the whole of this intricate, sublime, and inexhaustible subject, if I do not delay sufficient time to fix, I shall at least hope to start the reader's attention to a variety of grand objects, inseparable from a comprehensive knowledge of Medicine ; and of which I shall touch the fundamental keys and chords.

The

The Solar System consists of the Sun, of seven Planets surrounded by ten or more Moons, and of the Comets. The other siderial lights with which the vault of Heaven is studded, and which are denominated Fixed Stars, have a very distant affinity with our planetary sphere: they are infinitely too remote to be enlightened by our luminary; and therefore astronomers, with good reason, imagine each star to be a sun to encircling planets, though invisible to us; and to constitute throughout boundless space thousands, or perhaps millions, of habitable worlds. Numbers of those stars, most luminous and proximate, are arranged into arbitrary clusters, called Constellations, or Signs; and serve to mark the several stages of the rotating orbs in our system.

The Sun, whose magnitude far surpasses that of the seven planets united, is placed in the center, suspended in the immense celestial expansion and firmament. Surrounding him, at different distances, and in the following order, are the planets Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Georgium Sidus. These planets are incessantly re-

iv INTRODUCTION.

volving from west-by-south to east, and within certain intervals of time, make a complete circle round the Sun; which is the length of each planet's year; and is larger and longer in proportion to their respective distances. The velocity of their revolution in their annual orbits, together with their gradations of light and heat, are also in proportion to their solar proximity. From the Sun, the Planets, with their surrounding moons, derive heat and light; and when this is intercepted by any planet, or its satellite, an eclipse or darkness ensues. In what periods those tremendous celestial bodies, named Comets, revolve round the Sun, is not yet exactly adjusted.

One of the seven planets, the Earth, this small domain of restless mortals, and to which all our future observations shall be directed, is distant from the Sun 95,173,000 miles. In shape, it has more resemblance to a turnip than to a globe. Its diameter is 7,970 miles: its circumference 360 degrees; which amounts to 24,840 English miles. Geographers divide the globe of our planet

planet into two equal parts, or hemispheres, the northern and southern, by an imaginary girdle, or ring, named the Equator. Two other imaginary girdles furrounding the earth, and distant from the equator on each side $23\frac{1}{2}$ degrees, north and south latitude, are named the Tropicks of Cancer and Capricorn ; comprehending between them the torrid zone. From these tropical circles the zones, called Temperate, extend on each side 43 degrees : and at their extreme boundaries, we reach the polar circles $23\frac{1}{2}$ degrees distant from each pole. The north and the south poles are in the middle of each hemisphere of the earth ; and the distance of each from the equator is 90 degrees,

The earth has several incessant motions : one in which it turns, like a suspended wheel upon its own axis, from west to east, every twenty-four hours, which is the length of its day and night : the second, where it is rolling progressively in its great annual circle, or journey round the Sun : the third, the alternate inclination of its

poles towards the sun at different times of the year: the fourth, the small circle which it describes monthly round the common center of gravity, or balance, with its moon. The earth's diurnal revolution upon its axis, is at the rate of fifteen degrees, or 1,035 miles hourly. But the rapidity with which it is whirled in its annual orbit, is, hourly, 68,243 miles: whereas the swiftness of a ball discharged from a cannon is, in the same time, only 480 miles. Projected through the vacuity of heaven with this amazing velocity, in the space of 365 days, 5 hours, and 49 minutes, the earth completes its annual circle; which is the length of our year. The earth's rotation every twenty-four hours upon its axis, is the cause of day and night, or of light and darkness. In this successive rotation, one half of its globular surface is always enlightened; the other half being then obscured in nocturnal gloom, except when enlivened by the reflected rays of the moon, or of one of the planets, or by the fainter glimmering of the fixed stars. The alternate spiral inflection and declination of
the

the earth's poles during its annual journey round the Sun, is the cause of the different lengths of Days and Nights; of the Seasons; of Summer and Winter; of the Equinoxes, and Solstices: and as each pole inclines or recedes, it is summer and winter, alternately, in their respective hemispheres. The effects of this compound terrestrial circumvolution on the animal and vegetable creation, would alone be a magnificent theme for many volumes.

One Moon only is allotted to our earth; from which it is distant 240,000 miles. The moon's diameter is nearly one fourth less than that of the earth, which it obsequiously accompanies throughout its annual circuit; and round which it makes a perpetual revolution, from west to east, every lunar month. The constant agitation and periodical surges of the ocean, are greatly influenced by the moon, assisted, however, by the centrifugal force of the earth's motion. It is also ascertained, that in some diseases, the human body is considerably under the lunar influence; and its energy is still more con-

spicuous at periodical changes, during the month and the year. Many arguments might be suggested to invalidate and overturn the ancient astrological systems, and to prove that the celestial influences upon us are not, in any considerable degree, derived from sources more remote than the solar confines.

The first Element in pre-eminence and subtilty, without which all would be lifeless chaos in our system, is Heat and Light. Cold is a negative quality, and merely a comparative diminution of heat. The middle regions of the earth being repeatedly more exposed to the Sun's vertical rays, are consequently most heated and scorched. From the equator to the poles, are all the gradations of heat and cold; but for reasons too prolix to enumerate, these gradations are not in exact measurement with the geographical distances from the equator; neither in the same continent, nor in different continents. By the scale of Farenheit's thermometer, water boils at 212, freezes at 32; and blood-heat, or that of the human body,
is

is about 97. The most intense heat of the tropical regions, as measured by the same thermometer, is frequently many degrees above the human temperature; and the most intense cold of the polar regions, often many degrees below 1 or 0 of the same scale. Neither of these noxious extremes of pestilential heat, nor of deadning blasts from boreal snow, could be long endured by the human species, were their bodies not protected and screened by fences of nature or of art. Atmospheric heat, equal even to that of the human body, is felt intolerably scorching and suffocating. Every one also knows, by personal experience, that in different latitudes, and in summer and winter, the degrees of heat and cold, the duration, recurrence, and changes, are extremely variable. But within the equatorial limits, these variations are much less conspicuous, both in the thermometer and barometer. From this main spring and soul of animated nature, blessings and bounties are diffused, in thousands of channels, to every order of the creation; and from its extremes and vicissitudes, a multitude of evils and diseases are inflicted upon man.

Between

Between the earth and celestial vacuum is interposed an element, called the Atmosphere, or Air. This invisible elastic fluid is floating equally round our planet, to the distance of at least forty-five miles perpendicular elevation. It has been compared by some philosophers, to packs of wool heaped on each other: that nearest the ground is most dense, compact, and ponderous; and as we ascend, it becomes gradually more rare, light, and cold. The prodigious gravity, or pressure, of this atmospherick column, appears incredible to those who are ignorant of experimental philosophy, and of the air-pump and barometer. Upon a man's body, of middle stature, its weight is equal to thirty-two or thirty-three thousand pounds: but in rainy and variable weather, and especially on the summit of high mountains, there is a diminution in its pressure of many thousand pounds. This great mass of air, as well as the waters of the ocean and of rivers, is in constant agitation; sometimes gliding in gentle calms; sometimes, with wild uproar, raging in storms and hurricanes, and dispersed
in

in a variety of currents, over different parts of the earth and ocean in Winds, constant, periodical, variable, and irregular. Without the concurrent support of air, animal and vegetable life would soon be annihilated. On them great and sensible effects are produced by the atmosphere and winds: by the air's noxious impregnation, stagnation, want of elasticity, heat, cold, moisture, dryness; by the points from whence winds blow, their constancy, irregularity, recurrence, velocity.

The earth is the cistern, and one principal fountain of another still grosser element. From the Sun's heat, and from the successive streams of air and winds, a prodigious evaporation is carried on from the surface of the ocean, from the land, and from vegetables. Whether part of the atmospherick air is also converted into vapour, is a question too intricate and diffuse for our present inquiry. The critical analysis and history of a single element, would alone far exceed the limits of this Dissertation. It is sufficient for us to observe, that these vapours, terrestrial and aerial, are collected into clouds,

clouds, condensed, and again discharged upon the earth in Dews, Mists, Fogs, Rains, Snow, and Hail. The precipitation likewise of this accumulated vapour upon different parts of the globe, is periodical, regular, and variable. In quantity, duration, recurrence, and extent, these aqueous modifications are greatly diversified by the climate and soil, the vicinity to mountains and sea-coasts; the points from whence winds blow; and by many other causes, of which a detail cannot be here expected. From this source also ensue salutary and baneful effects, innumerable to animal and vegetable life.

Another subtle and active agent in the secret machinery of nature, is the Electrical Emanation; which, somewhat perhaps analogous to the aqueous evaporation and congection before mentioned, is collected into clouds, and, with loud explosion, again discharged and dispersed into the air and earth: the fabulous thunderbolts and artillery of Omnipotence.

We now alight upon that solid mass, Earth, the most fixed and substantial of all
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the elements. The surface of our planet is composed of dry land and water ; of which the ocean, without including lakes and rivers, occupies by much the largest extent. But the partition of the dry land into four continents, Europe, Asia, Africa, and America, is not well founded. Nature has in reality formed only three great insulated continents, exclusive of the smaller islands. Europe and Asia are contiguous, and cemented together as England and Scotland ; or as France and Germany ; and their boundaries artificial : whereas Africa, except the slender neck of land near Alexandria, is surrounded by sea. Of these four continents, Europe is the most diminutive. Asia and America stand dignified, above all the others, in superior magnitude. The dry land in Europe, Asia, and America, stretches to a great northern latitude, considerably within the arctic, or polar circles ; and, spreading also in that part to a wide extent, east and west, forms nearly a complete bridge between Asia and America. Within the tropical circles are included the belly and bulge of Africa, and of South America,

America, with a considerable portion of the broken southern extremities of Asia; together with most of the principal islands in the Pacific and Atlantic oceans. In all the hemisphere south of Capricorn, the land is greatly disproportioned to the ocean. The conical south point of America is but 55, and that of Africa only 35 degrees distant from the equator. A vast orbicular segment of this extreme of our planet, furnishes habitation for fishes only. The dry land is also diversified by elevations and plains; but in no part of the earth's circumference do those stately monuments of nature's workmanship ascend to five miles perpendicular elevation.

The Creator has bountifully stored the earth and the ocean with animals and vegetables. Our attention is here circumscribed to the most exalted class, the Human Species; leaving to the naturalist a description of quadrupeds, birds, fishes, insects, and vegetables. By far the largest proportion of the human species are stationed to the north side of the equator, and even to the north of the tropick of cancer. The populous continents

nents of Europe and Asia, comprehending most of the powerful kingdoms in our planet, are in the northern hemisphere. Within the tropical circles and furnace of the earth, are stationed the next considerable hive of mankind. To the south of Capricorn there are few inhabitants. Some wretched human beings are also scattered through those dreary wastes of ice and snow within the northern polar circles.

Calculators differ enormously respecting the *number of the Human Species*. Some sink the collected herd so low as three hundred million, whilst others exaggerate them to treble and quadruple that amount. It forms no part of my scheme to investigate the comparative population of the earth, one, two, and three thousand years ago. Europe, in all probability, since the era of Roman grandeur, has, together with advancement in civilization, likewise added to the number of its inhabitants. Those parental nurseries of the arts and sciences in Asia and Africa, have no doubt undergone various revolutions in population. If we were to draw any inferences from the numerous

Asiatic

Asiatic armies, during the successive despotism of Assyrian, Babylonian, Medean, and Persian monarchies, we should conclude that, in remote ages, the south of Asia abounded in men. The extensive empire of China, at this day, resembles an industrious beehive, and is gorged with mankind. We have still more aversion to plunge into the mysterious archives of Africa, and with critical affectation to pronounce upon the population of that quarter before the decay of its political, commercial, and literary fame with Thebes, Carthage, and Alexandria. That modern-discovered transatlantic continent, from the cruelties and desolation of its first conquerors, and of a loathsome infectious disease exchanged for another, has probably suffered considerable diminution of its original feeble hive, notwithstanding the recruit from Europe; and in the scale of population, as yet ascends to a very subordinate rank amongst the other continents. The most probable calculations estimate the whole human race at eight hundred million: of which number, Europe boasts of little more than one hundred million. The great swarm is in Asia; amounting to
between

1895

about in the Sixth Column.

[illegible]

A CHART of all the Fatal Diseases and Casualties in London, during 75 Years ;

Beginning from 1701, and ending with 1776.

Collected from the London Bills of Mortality, and arranged into Five separate progressive Periods of Fifteen Years each.

The Total Amount of the Five Periods, or Seventy-five Years Mortality, is added together in the Sixth Column.

| DISEASES AND CASUALTIES. | Fifteen Years, from 1701 to 1717. | From 1717 to 1732. | From 1732 to 1747. | From 1747 to 1762. | From 1762 to 1777. | Total Amount of Seventy-five Years Mortality, from 1701 to 1777. |
|---|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--|
| Ague — — — | 80 | 198 | 82 | 99 | 109 | 574 |
| Fevers. Malignant, Spotted, Scarlet, and Purple | 50,955 | 53,330 | 57,995 | 45,621 | 48,594 | 256,085 |
| Small Pox — — — | 22,219 | 34,448 | 29,462 | 29,165 | 36,276 | 151,570 |
| Measles — — — | 1,972 | 2,618 | 2,858 | 3,099 | 3,319 | 13,866 |
| Quinsy, Sore Throat — — — | 226 | 169 | 287 | 306 | 309 | 1,297 |
| Pleurisy — — — | 384 | 602 | 811 | 407 | 321 | 3,525 |
| Rheumatism — — — | 368 | 447 | 310 | 175 | 128 | 1,468 |
| Gout — — — | 313 | 645 | 769 | 803 | 1,010 | 3,236 |
| Consumption — — — | 42,541 | 49,680 | 66,009 | 61,749 | 68,949 | 288,928 |
| Chin Cough, Hooping Cough, Cough | 116 | 632 | 1,692 | 2,755 | 4,252 | 9,573 |
| Asthma and Tiffick — — — | 5,090 | 7,938 | 9,460 | 5,699 | 6,154 | 34,341 |
| Apoplexy and Suddenly — — — | 2,228 | 3,013 | 3,287 | 3,271 | 3,353 | 15,152 |
| Palsy — — — | 332 | 550 | 621 | 1,021 | 1,020 | 3,544 |
| Lethargy — — — | 105 | 126 | 116 | 105 | 74 | 526 |
| Meagrim — — — | 13 | 10 | — | — | — | 23 |
| Headach — — — | 21 | 32 | 6 | 18 | — | 77 |
| Lunatick — — — | 412 | 513 | 777 | 1,126 | 1,048 | 3,876 |
| Spleen and Vapours — — — | 53 | 52 | 20 | — | — | 125 |
| Rising of the Lights — — — | 1,219 | 1,239 | 197 | 39 | 10 | 2,074 |
| Stoppage of the Stomach — — — | 4,139 | 2,557 | 2,286 | 304 | 179 | 9,465 |
| Vomiting and Looseness — — — | 820 | 682 | 248 | 134 | 120 | 2,004 |
| Cholic, Gripes, and Twisting of the Guts | 13,668 | 11,032 | 3,739 | 1,475 | 796 | 29,710 |
| Flux — — — | 178 | 200 | — | 252 | 341 | 971 |
| Bloody Flux — — — | 133 | 248 | 167 | 94 | 93 | 745 |
| Worms — — — | 697 | 662 | 161 | 115 | 56 | 1,691 |
| Jaundice — — — | 1,261 | 1,798 | 2,032 | 1,729 | 2,089 | 8,909 |
| Gravel, Stone, and Strangury — — — | 789 | 868 | 700 | 421 | 429 | 3,205 |
| Diabetes — — — | 37 | 48 | 19 | 16 | 5 | 125 |
| Dropfy and Tympany — — — | 11,626 | 15,430 | 16,036 | 13,410 | 14,038 | 70,506 |
| Livergrown — — — | 76 | 95 | 75 | 23 | — | 269 |
| French Pox — — — | 917 | 1,372 | 1,663 | 997 | 1,016 | 5,965 |
| Scurvy — — — | 63 | 28 | 14 | 59 | 42 | 226 |
| Evil — — — | 1,020 | 519 | 426 | 197 | 198 | 2,360 |
| Leprosy — — — | 19 | 53 | 69 | 39 | 15 | 1,915 |
| Rash — — — | 77 | 128 | 47 | 59 | 24 | 341 |
| Itch — — — | — | — | 42 | 31 | 11 | 84 |
| Childbed — — — | 3,560 | 3,894 | 3,412 | 3,005 | 3,186 | 17,057 |
| Abortion, and Stillborn — — — | 8,746 | 10,231 | 8,793 | 8,820 | 10,241 | 46,831 |

| DISEASES AND CASUALTIES. | From 1701 to 1717. | From 1717 to 1732. | From 1732 to 1747. | From 1747 to 1762. | From 1762 to 1777. | Total Amount of Seventy-five Years Mortality, from 1701 to 1777. |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--|
| Chrifoms and Infants — — — | 850 | 315 | 606 | — | — | 1,771 |
| Miscariage — — — | — | — | 47 | 56 | 49 | 152 |
| Convulsions — — — | 91,660 | 114,718 | 111,966 | 85,196 | 89,221 | 492,761 |
| Headmold-shot, and Water in the Head | 609 | 2,374 | 2,013 | 1,022 | 337 | 6,355 |
| Teeth — — — | 18,478 | 25,199 | 20,274 | 13,978 | 11,918 | 89,847 |
| Thrush — — — | 839 | 1,191 | 1,512 | 1,391 | 1,101 | 6,034 |
| Scald Head — — — | 9 | 15 | 29 | 22 | — | 75 |
| Rickets — — — | 3,916 | 1,383 | 954 | 112 | 104 | 6,569 |
| Inflammation — — — | 8 | 67 | 698 | 894 | 1,394 | 3,061 |
| Impofthume — — — | 790 | 694 | 387 | 191 | 84 | 2,130 |
| St. Anthony's Fire — — — | — | 73 | 36 | 63 | 69 | 241 |
| Gangrene and Mortification — — — | 1,071 | 2,857 | 3,362 | 3,083 | 3,023 | 13,438 |
| Canker — — — | 138 | 181 | 123 | 77 | 61 | 580 |
| Cancer — — — | 1,041 | 1,059 | 774 | 682 | 719 | 2,475 |
| Sores and Ulcers — — — | 695 | 485 | 402 | 253 | 236 | 2,071 |
| Fistula — — — | 360 | 202 | 210 | 134 | 119 | 1,025 |
| Burften and Ruptures — — — | 310 | 309 | 304 | 163 | 140 | 1,226 |
| Swelling and Wen — — — | 6 | — | 47 | 49 | 37 | 139 |
| Killed by Falls, Bruifes, Fractures, and other | — | — | — | — | — | — |
| Accidents — — — | 828 | 917 | 926 | 1,084 | 1,065 | 4,820 |
| Self-Murder — — — | 445 | 667 | 693 | 555 | 509 | 2,869 |
| Murdered — — — | 135 | 109 | 147 | 71 | 77 | 539 |
| Stabbed, Killed, Wounded, Shot, &c. | 15 | 32 | 13 | — | — | 60 |
| Executed — — — | — | — | 495 | 495 | 1,020 | — |
| Drowned — — — | 907 | 1,193 | 1,444 | 1,718 | 1,781 | 7,043 |
| Burnt — — — | 90 | 54 | 90 | 127 | 132 | 493 |
| Scalded — — — | 19 | 36 | 45 | 51 | 40 | 191 |
| Stifled, Suffocated, and Smothered — — — | 13 | 34 | 62 | 90 | 68 | 276 |
| Overlaid — — — | 817 | 1,180 | 1,293 | 414 | 95 | 3,799 |
| Found dead — — — | 388 | 557 | 668 | 336 | 133 | 2,082 |
| Grief — — — | — | 267 | — | 87 | 77 | 421 |
| Frightened — — — | 8 | 14 | 8 | 13 | 2 | 45 |
| Surfeits — — — | 685 | 131 | 59 | 31 | 27 | 933 |
| Starved — — — | — | 17 | 96 | 53 | 57 | 223 |
| Excessive Drinking — — — | 19 | 267 | 678 | 189 | 69 | 1,222 |
| Bleeding — — — | 87 | 69 | 57 | 70 | 114 | 397 |
| Poisoned — — — | 2 | 7 | 7 | 24 | 10 | 40 |
| Bit by Mad Dogs and Cats — — — | — | 3 | 14 | 15 | 6 | 38 |
| Bedridden — — — | — | 104 | — | 56 | 105 | 265 |
| Aged — — — | 27,341 | 34,708 | 30,058 | 25,109 | 22,032 | 139,248 |

ALPHABETICAL CHART

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Total Amount

between four and five hundred million. Africa is supposed to contain one third or fourth of the latter number. Over the fertile wilderness of America are scattered not altogether twenty million.

But if in London alone, where registers of various kinds may be consulted, calculators are, notwithstanding, at variance respecting its population upwards of one hundred thousand, and in the whole island more than a million; it may be reasonably suspected, that in forming a gross estimate of the aggregate terrestrial inhabitants, we may err perhaps one, two, or even three hundred million. As well might we expect a correct list of the lions, crocodiles, and monkies of Africa, as of the outcast human race in those burning and illiterate regions. To determine the exact amount of inhabitants in any civilized kingdom, the most certain method would be, to make an universal and arithmetical numeration throughout every dwelling. This is often done in several kingdoms; and in none more culpably neglected than in this island. English calculators, therefore, have been under the

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necessity,

necessity, by other laborious processes, to form at least plausible conjectures of the national population. One of their methods is, by collecting the number of houses, and allotting five, or four and a half inhabitants to each house; which, at a general medium, was found near the standard of truth, in a multitude of large towns and open districts in England, Holland, Germany, Switzerland, and Italy; as may be seen recorded in the writings of Short, Sufmilch, Price, and many others. In some particular cities, however, such as Berlin, Vienna, Paris, and Edinburgh, where several families are crowded into one house, this rule would lead into error. Besides, in ours, and many other large kingdoms, we are not yet supplied with an authentick register of all the dwellings. And in Asia and Africa, whose political institutions and customs are so different from us, this scale of mensuration may be still more erroneous. Another method, but still more complex and uncertain, of computing the population is, by the annual christenings and burials. When these are equal, and consequently there is no increase or decrease
of

of the inhabitants, we are directed to multiply the usual prospect or decrement of life, or in the mathematical phrase, the expectation of an infant at birth in that city, town, or district, by the general medium of christenings; which will be the total local amount of the inhabitants. But as the christenings and burials are rarely equal, or a correct list of either can be ascertained from the imperfect registers, this process is very defective.

The Multiplication of the human species depends greatly on society. There are more inhabitants concentrated into one large metropolis of Asia or Europe, than could be collected in many thousand miles of the North-American wilderness on its first discovery. The population of the earth is by no means regulated by the extent of country. If, on the one hand, high refinement and large cities are obstacles to population, a wild state of nature is still more detrimental. A few tribes of North American natives, prowling like hungry wolves, can scarce find precarious subsistence in a wide extent of uncultivated

vated desarts. Their infants, from necessity, are suckled several years; and after rearing two or three, the period of propagation is nearly over. A medium state between the vicious extremes of refinement and rude savageness; or the middle stages between the iron and golden ages of the ancient philosophers, is most favourable to the increase of our species. But the causes conducive to population and depopulation, are of infinite compass; and are of a compound nature, medical and political. They are connected with the state of government, religion, climate, genius, industry, riches, poverty, taxes, luxury, refinement, wars, colonization, emigration, commerce, agriculture, the unequal distribution and monopoly of property and farms, the plenty, scarcity, and cheapness of food; and, with many other causes, closely allied to our future medicinal investigation. Under governments and nurture, directed with political and moral, together with medical prudence and circumspection, the earth and ocean would probably afford ample nutriment, and their population might be multiplied to three times eight hundred million.

Extending

Extending our views over the surface of the globe, we perceive striking distinctions between the human species; not only in the four great continents, but also in different parts of the same continent. These differences are principally manifest in the colour of the skin; in the complexion, countenance, physiognomy, hair, form, and stature. We attend here merely to corporeal distinction, without including the intellectual. These great Classes of mankind may be divided into the Laplander, the Tartar, the Chinese, the European, the African - negro, and the native American. The modern - discovered inhabitants in the islands of the Pacific ocean, seem to have no remarkable cast of countenance or figure to sever them into a separate class. But throughout a considerable extent of the globe, from conquest, emigration, colonization, and commercial intercourse, many nations are now blended and assimilated into one; and their elementary characteristic features more faintly imprinted. Besides, every one's experience and observation will instruct him, that in populous kingdoms

those classes branch out into innumerable intermixtures, orders, and genera; and that the species and varieties are as numerous as the individuals of the human race. Amongst the ab-origines, and stationary inhabitants of most kingdoms, there are indeed some prominent features peculiar to each community; which are, in some degree, conspicuous in the corporeal, and still more in the mental outlines. Mankind, exclusive of their original mould, as issued from the mint of the Creator, are afterwards diversified by climate, soil, diet, government, religion, association, occupation, and habit.

By Civilization, mankind are arranged and connected into an infinite series of descending and dependent links. In a state of nature there are few gradations in society; few professions or mechanical arts. Mr. Voltaire makes two great divisions of mankind; the oppressors, and the oppressed. Descending the mole-hill and ladder from the throne to the cottage, we may trace a multitude of gradations in the scale of polished communities. We descend thro'
nobility

nobility and gentry of independent fortunes, in lands or money; through literary professions, including divinity, medicine, law, and various other branches of active or speculative science: all of which united, constitute, even in the most opulent nations, but a small portion of the community. We next descend to a fertile hive of husbandmen and artizans, laborious drudges in mechanical trades, arts, manufactories, and commerce: to a numerous class of retailers or venders of merchandize, and of the necessaries of life: to soldiers, sailors, domestick servants: to no inconsiderable multitude buried under ground, and occupied in digging metals and fuel from the bowels of the earth: to infirm, cripples, diseased, puerperal, aged; and to many other links and gradations, which must be greatly diversified by the variety in governments, religion, climate, national genius, and other causes which will occur to philosophers, and to gentlemen of reflection. It is of essential importance, not only in an enlarged political, but also in a medicinal view, to contemplate these constituent portions of a community.

The inhabitants crowded into Cities and towns, and those dispersed in small villages, and in the Country, constitute other large groups of society. If the result of Susmilch's researches and materials, collected throughout Germany can be depended upon as a criterion for other European nations, the inhabitants in the country are to those in cities and towns as $3\frac{1}{2}$ to 1. Great cities, if we except Rome and Constantinople, are of modern date in most kingdoms of Europe. In the ninth century, a few towns had been built in Germany; but in England, corporations and considerable towns are posterior to the Norman invasion. Cities, associated communities, and towns, during the religious frenzy of crusading, and after the termination of this epidemical distemper, were asylums from aristocratic tyranny; and when of moderate size, are seats of politeness, refinement, emulation, arts, and society: but when overgrown, they check population; they are drains of the human species, the graves of infants, and nurseries of vices. Unfortunately also for succeeding generations, numerous cities, towns, and harbours, have been founded upon

upon low, unhealthy situations, surrounded by morasses and hills. Most cities seem to have grown to maturity by accident and time: their streets are narrow, irregular, not sufficiently ventilated; and the inhabitants absurdly and perniciously thronged together. There are moderate-sized towns, and even country districts, whose situations are so noxious, as to make the burials exceed the births. We need not travel to new uncultivated continents and islands, nor to rank tropical climates for proofs: we have only to consult Dr. Short's Registers of several parts in this kingdom,

The assemblages of the human race are greatly diversified by their Ages. During nine months only of uterine incubation, and from the most minute tadpole, an infant at birth has grown to between sixteen inches and two feet; and from five to ten pounds in weight. After birth, the increase is slower; and it proceeds to shoot upwards a few inches annually, but not always in successive progression, and to make additions to its weight and dimensions. Between puberty and twenty-one years of age, man has
generally

generally attained to the summit of his altitude ; females, rather earlier ; and those still earlier who inhabit warm climates. Excluding that fragment of pigmy mortals, the Laplanders, between five and six feet in height is the most universal and mean standard of the human race ; and their gravity in various gradations, from eight to twenty stone ; in both which respects, females usually fall short of males. Nature, however, is not limited to one model of altitude or gravity ; she sometimes deviates into extravagancies, producing human giants, from nine, down to diminutive dwarfs of two feet ; together with shapeless monsters wallowing in fat, and weighing upwards of forty stone. Let us next endeavour to form arithmetical estimates of the human race, at different ages. Davenant calculates the inhabitants of England (not including Scotland) at five million and a half ; and their fundry ages as follows : — Under one year of age, 170,000 ; under five years of age, 820,000 ; under ten years of age, 1,500,000 ; under sixteen years of age, 2,240,000 : from sixteen years of age to the extreme of existence, 3,260,000 ;

3,260,000; of which number he estimates 600,000, or about one ninth part of the whole community, to have passed sixty years of age; and of which veteran group the males constitute 270,000; the females, 330,000. Dr. Price supposes nearly an equal proportion living under 16, and above that age; but that the latter are the most numerous class: Davenant states the medium at 20. Dr. Hall-y supposed the number living under 16, to comprize about one third of the community; and also, that those living between 20 and 42, were about one third of the whole. The preceding analysis of the numbers living at different ages in one kingdom, may with facility be applied to any numerical extent. If we wish to calculate the proportion living at similar ages amongst one hundred million, we have only to multiply by 18 each of the preceding groups composing five million and an half of inhabitants.

Two large and important classes are formed in society, by the distinction of the Sexes into male and female. So soon as the
organs

organs of generation are completely evolved; that is, when the two sexes arrive at puberty, they are inflamed with a new passion and pleasing sense. In most warm climates, this generative period is somewhat earlier than in northern latitudes; and in the former also, women are said to be more prolifick. We shall therefore devote a few words to the union of the sexes, from whence ensue procreation and births. Some calculators have computed, that amongst five million and an half of inhabitants in England, there are annually about forty-one thousand legal marriages: of which one sixth part are widows and widowers; about one marriage to every one hundred and four inhabitants; and the annual marriages to the births, as 1 to 4, or $4\frac{1}{2}$. The mean ages at which marriages in this island commence, is computed from 32 to 35 on the side of the man, and 25 on that of the woman; but in this estimate, second and third marriages are included.

In cities, not only fewer enter into the matrimonial state, but the product also of
city

city and country-marriages is observed to differ. Marriages in cities, one with another, seldom produce above four; generally between three and four, and sometimes not three children: whereas country-marriages seldom produce less than four, and generally between four and five. Whether this disparity between the product of city and country-marriages is to be imputed to dissipation, libertinism, and incontinence, both in the single and married state; to the cloudy apprehensions and fears of overstocking their house; to later, fewer, and less frequent unions in the matrimonial bond; or to all these and other causes combined, I submit to the reader's consideration. From authentick registers of a variety of small towns and country parishes in England, Dr. Short found, that each marriage produced four and a half children, at a medium; for some married pairs have only one or two: others six, eight, twelve, or more; and a small remnant are unprolific. Natural, or illegitimate children, are enrolled in the public records of christenings, and swell their proportion to the registered weddings somewhat greater than

than they would appear without this extraneous addition. In some German registers, Dr. Short found, that of 333,655 births, the illegitimate amounted to one thirty-seventh part; and in an inland town of England, that of 10,337 births, 284, or about one thirtieth part, were illegitimate.

If the number of inhabitants in any kingdom, city, or village, continues the same without increase or decrease, and supported by their own procreation only, it is evident, that there the annual births and burials will be equal, and the supply proportioned to the waste; and in equal numbers, as many will die at all ages as are born in the year, on a general average; and the numbers dying any year at one, two, three years of age, and so on to the extreme of existence, will be just equal with the numbers who successively attain to those different ages at which the others die. The total annual births amongst five million and an half of inhabitants in England, are calculated by Davenant at 190,000; which is about one birth to every twenty-five

five inhabitants ; and amongst nine million of inhabitants in Britain and Ireland, the annual procreation will considerably exceed three hundred thousand ; and the annual mortality should be somewhat inferior. In the kingdom of Prussia, from the year 1715 to 18, there were christened, at an annual medium, 78,826 ; buried, 55,852. In the kingdom of Sweden, the annual average of births during nine years, ending in 1763, was 90,240 ; burials, 69,125. In Norway, in 1761, the christenings were 11,024 ; burials, 6,926. In France, during three years, ending in 1772, the annual average of births was 920,918 ; burials, 780,040. In the county district of Vaux, in Switzerland, during ten years, the births were 3,155 ; burials, 2,504. The country, says Graunt, has 6,339 births for 5,280 burials. In that little fertile atlantic island Madeira, the inhabitants have been computed to double themselves in eighty-four years ; so great is the difference between the births and burials. In some provinces of North America, if Dr. Franklin's calculations are correct, the inhabitants double

ble themselves in the short space of twenty-five, twenty-two, and even in fifteen years. On the other hand, in all the large cities of Europe : in Paris, Vienna, Rome, Dresden, Berlin, Amsterdam, London, Edinburgh, Dublin, and in almost all towns of considerable magnitude and population, the total annual births are inferior to the burials. It is calculated, that in London, within the last 150 years, near a million more of the human species have been wasted, beyond what were reared by its own original growth and procreation. But in small villages and country districts, the annual births exceed the burials ; and it is from this redundancy that a supply is furnished for the extraordinary consumption of armies, navies, war, colonization, emigration ; exclusive of sickness, and other morbid casualties : the country and village surplus prevents depopulation.

Providence has also wisely ordained, that throughout those European kingdoms, of which we have any registers, a few more Males should be born than Females ; and
indeed

indeed such a surplus is rendered necessary from the waste by wars, emigration, intemperance, mechanical arts, and trades, the inclemency and vicissitudes of the weather and seasons, the vices and misfortunes to which political punishments are annexed; with various other noxious casualties, to all which the male sex are most exposed. In Dr. Arbuthnot's Table, printed in the *London Philosophical Transactions*, of the proportion between the births of the sexes; in forty-six years were baptized of males, 329,742; of females, 308,644: excess of males only, 21,098. By the London bills, from 1657 to 1776, I find that there have been christened of males, 1,041,149; of females, 983,061, or as 18 to 17: and therefore, that in this long interval of 120 years, and comprehending two million of births, there is only a trifling excess of males, amounting to 58,088: a number which would scarce recruit the consumption of a few active campaigns. The excess of male beyond female births, is not so considerable as books of calculation have represented. In volume the 7th of the *Philosophical Transactions*

abridged, there is an account of the annual births during several years at Vienna, Breslaw, Dresden, Leipzig, and Ratisbon: and in those cities, male and female births were as nineteen to eighteen. Amongst the abortives and stillborn, we also find the plurality of males. Lastly, if the registers can be depended upon, it appears that there are more births in Winter than in Summer, both in town and country. But although the fruit of the human womb may not have arrived at maturity before winter, it is no proof against the general law of the spring and summer influence on animals and vegetables, in contributing to fecundity and generation.

CHAPTER

CHAPTER I.

The Comparative Mortality of the Human Species, and of the Sexes at every Age, in City, Town, and Country; and in different Kingdoms of Europe: illustrated with a Chart, and with Tables. The Comparative Mortality of the Human Species, by different Diseases and Casualties: exhibiting a Chart, and Tables of all the Mortal Diseases and Casualties in London during Seventy-five Years: illustrated by and contrasted with the united Observations of Medical Authors, with various Hospital Registers; and with a Variety of Materials, Observations, and Comments of the Author.

THAT learned Physician, Dr. Arbuthnot, in his Preface to Huygen's "*de Ratiociniis in ludo aleæ*", says, There are very few things which we know, which are not capable of being reduced to a mathematical reasoning; and when they cannot, it is a sign the knowledge of them is

very small and confused; and, when a mathematical reason can be had, it is as great a folly to make use of any other, as to grope for a thing in the dark when you have a candle standing by you. Medical writers, almost universally, have neglected, or barely skimmed the surface of the following important subjects. The public registers of births, burials, and diseases, are overlooked by all the modern systematick authors: they leave us equally ignorant of the aggregate, or comparative number, or force of those fiends which haunt and ravage the globe. To speak metaphorically, in medical books, the extensive desolation of the most rapacious tyrants and conquerors are confounded with the uninteresting history, and petty depredations of a robber. The detached observations of physicians, or other literary individuals, confined perhaps to a small town or parish, a meagre detail of village remarks, furnish, in innumerable instances, foundations too slight for the erection and stability of general propositions. In order to form useful tables of the ratio of mortality at various ages, to determine upon the absolute and relative havock by different diseases,

diseases, upon the general effects of climate, season, local situation, diet, drink, luxuries, new customs, and manners, &c. we should extend our views far beyond the narrow bounds of a parish, or even of a province; we should include an interval of many years, collective numbers, and large groups of mankind.

It appears to me, that a great number of the fundamental principles, or of the primary orders of medical architecture, have not yet been established, neither in Pathology, to which this Dissertation is chiefly related; and much less in Therapeuticks. The lumber and mountain of ponderous systems, heaped together from Galen to Stahl, can only be compared to Egyptian pyramids. Except what has been done by a few authors, hereafter to be mentioned, the science of Medical Arithmetick and Universal Prognosticks, are new in medicine. In emergencies, the constant appeal has been, with oracular reverence, to aphorisms and opinions of individuals. In a word, no medical author has yet attempted to take the gages of life and death, and of morbid devastation, and, in one general survey, to encircle

the horizon of human existence and distempers. I have made some, at least laborious efforts, to rescue a momentous part of active medicine from that conjectural stigma with which the whole profession has been branded in the lump. And, however it may be flighted as an heretical innovation, I would strenuously recommend Medical Arithmetick, as a guide and compass through the labyrinth of Therapeuticks.

We are now to view the human race unexpectedly arrested, and struggling in the tragical and last stages of their terrestrial pilgrimage. The vision of human life is soon at an end: we are ushered into the world with lamentable exclamation; and are too often torn out of it in pain and agony. Bills of Mortality, however defective and inaccurate, yet sufficiently demonstrate this awful truth, that very few of the human species die of old age, or natural decay: by far the greater proportion are prematurely cut off by diseases. Of all the animal tribe, who usually bring forth one at a birth, none die in such numbers, in infancy, as the human race. In London, Vienna, Berlin, and every other overgrown metropolis of Europe, on an average, one half of the children born, die under
three

three years of age. But in country towns and villages, the proportion of infant mortality greatly abates. In some country towns of England, of considerable magnitude and population, as Manchester, half the children die under five; at Norwich, half under six; at Northampton, half under ten years of age. London, therefore, will have lost, out of equal capitals, a number in the intermediate space, between three and ten, more than Northampton.

Attend next to the small proportion of Infant Mortality in open country districts. By Dr. Short's registers of several small country villages in England, the major part born live to 25, 27, 33, and 40. In many healthy country parishes, half the inhabitants born live to mature age; to 40, 46, and a few even to 50 and 60; and rear large families of children. In some extensive country districts of Switzerland, similar observations have been made by Sufmilch and Muret. Here, therefore, is an astonishing disparity between the duration of city and country life: but particularly, let it be engraved upon the memory, in the early stages of puerile existence. In-

infants in cities resemble tender delicate plants excluded from fresh air ; or fish confined in stagnant putrid water : they perish before acquiring a solidity and seasoning to endure the adulterated quality of the surrounding element ; and their thread of life is then suspended by a tender cobweb.

Mortality, universally, during the first year after birth, is the most enormous in the funeral catalogue. A London infant at birth, has but an equal chance of living to three years old ; whereas in the country, as before observed, half born survive to maturity. Upon reaching the third year, in cities, infants are somewhat seasoned, and the hurricane of puerile carnage is greatly abated. There is not afterwards such a prodigious disproportion between city and country mortality ; and, in a few years after, from seven to ten, they approach nearer to an equality. From the London registers of burials, it appears that more die in the metropolis under two years of age, than from two to upwards of forty ; and more under five years of age, than from five to between fifty and sixty : yet under five, there are but an inconsiderable
number

number alive, compared to the latter class above that age: the deaths are greatly disproportioned to the living numbers or capitals. A few more die in the short interval between five and ten years of age, than in the succeeding double interval from ten to twenty. Between eight and sixteen years of age, one of every seventy of the Christ School boys is computed to die. Davenant rates the decrement in these years at only one *per cent.* After reaching the tenth year, the torrent of mortality in city, town, and country, is subsided; and during the next eight or ten years of adolescence, very few die. From seven to ten, may be termed the highest pinnacle: having surmounted all the dangers and precipices of the early preceding journey, there is no stage wherein the future prospects of existence and longevity are so extensive. From birth to ten, the tide of life continues in annual gradation to increase; and from ten to the ultimate verge of existence, vitality continues gradually to ebb. Between twenty and thirty, more die in London than in the fifteen preceding years; and the burial list continues turgid to sixty; at which latter stage, the mortality is computed between four and five *per cent.*

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One reason, but not the only one, as I shall hereafter prove, of the great surge in the London bills, from twenty up to forty, is, that within this interval of life, the majority of the new settlers or recruits, arrive; and consequently augment the burials, from twenty to forty, beyond their natural proportion. After passing the meridian, and in the evening of life, the seasoned inhabitants of cities are said by Dr. Price, to have the advantage of the country, in health and longevity: that is to say, although the number who have survived in the country to sixty, seventy, and eighty, are greater proportionally than in cities, yet the latter class arrived at those years in London, have, comparatively, surer expectations of life. I do not, however, find this assertion verified in fact; the balance, if any, vibrating alternately on each side. The proportion of inhabitants who reach eighty years of age are computed, in London and Vienna, at one of every forty: but in country parishes, at one of every twenty-two; and in some, even one of every eleven. In both city and country, the few survivors at ninety, out of each thousand contemporaneous births, will have lost almost all their fellow-

fellow - travellers in the journey, long before reaching that goal; and about three or four only out of each thousand, on an average, will be then left alive.

There are a few instances of extraordinary Longevity, to 150 and 165; such are Jenkins and Par, in this island. In Bacon Lord Verulam's History of Long Livers, male and female; their climate, diet, mode of life, appetites, exercises, studies, passions, dispositions, habits, and complexions, were exceedingly dissimilar. It is however probable, from observation and analogy, that the indigent and laborious class of mankind do not attain to longevity in the same proportion with the middling and more opulent ranks. The wandering Savages of America are notoriously short-lived. Throughout Europe, Asia, Africa, and America, the rich, the poor, the inhabitants of city and country, with very different complexion, climate, soil, diet, and conveniences, all seldom exceed the usual term of life allotted to man: seventy and eighty is mentioned in holy writ, as the brink of our earthly duration. Since the days of Moses; that is, between three and four thousand
years,

years, human existence has been circumscribed within the same narrow bounds. In the London registers of mortality, during a period of thirty years, from 1728 to 1758, the total mortality is 750,332; and of all this number, 242 only reached beyond 100 years of age; one of whom arrived at 138. In some races and families of men, longevity seems to be hereditary; and his age, though little more than a dream, exceeds that of all other living creatures, a few only excepted. Amongst the quadruped creation, the elephant surpasses man in longevity: amongst the birds, the Swan, and a few others, have survived upwards of a century. The age of fishes is determined with more ingenuity than certainty: some seem to rival man in years. Among the numerous vegetable tribes, the Oak, Chestnut, and some other great trees, survive centuries.

On contrasting the mortality of Males and Females, it appears, that, notwithstanding the surplus of male births, the perils of child-bearing, the many vexatious diseases peculiar to the fair sex, and that physicians and apothecaries have many more patients of the latter; yet the total aggregate number of living females

females exceeds that of males, in most European kingdoms. Upon a numerical inquest in Edinburgh, and some other great cities, it was found, that females were to males as 4 to 3: in London, as 13 to 10; and in some other cities and towns, as 9 to 8. But in country districts, Graunt and Sufmilch agree, that the two sexes approach nearer to an equality. In the province of Jersey, in North America, the males were found the majority. From 1702 to 1752; that is, during a period of fifty years, I find the proportion of male and female mortality in London as follows: Male deaths, 618,076; Female deaths, 626,692. Whence, therefore, does it happen, that female deaths preponderate over the male, when more of the latter are born, and, as calculators assert, the mortality of males, at all ages, is greater than that of females? As a solution of this difficulty and partial exception, I should suggest a greater exportation and transportation of males to the sea and land service, to nautical commerce, and to unhealthy climates.

Even in the Marriage State, the chance of survivorship seems considerably in favour of the
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the wife. In Breslaw, during eight years, five married men died to three married women. Sufmilch, on a scrutiny through several kingdoms and principalities of Germany, found, that three married men died to two married women. Dr. Price estimates the chance in favour of the wife being the survivor in marriage, as 3 to 2 : and this calculation is confirmed by the experience of the general Clerical Society in Scotland, who have long established funds to support their widows. From their records, it appears that twenty married clergymen have died to twelve wives; or, as 5 to 3. By an accurate survey of several principalities and cities in Germany, and collected by Sufmilch, the widows were to the widowers as 3, and even 4 to 1. At marriage, it should be observed, there is generally a disparity of age; the bridegroom is from six to twelve years older than the bride; and therefore should, in the course of nature, die sooner: and perhaps also more widowers, comparatively with the other sex, enter into a second marriage; which tends to reduce their numbers. Besides, husbands are more exposed to the vicissitudes of the weather and seasons, to excessive labour and noxious trades, and to
many

many other causes of diseases. Dr. Price finds, that the sexes respectively commence to be widowers and widows about 52 and 44 ; that is, men and women entering into matrimony, on a general average, at the age of 33 and 25, will become widowers and widows at 52 and 44 : consequently, that each marriage will be dissolved by the death of one of them, in nineteen years ; which is the ultimate term and probability of the husband and wife being both alive. For although some marriages may be protracted forty and fifty years, yet others may be dissolved in one year, or in a shorter time.

We have not yet sufficient information to determine the comparative chances of Female Longevity in the married and single state. At Berlin, indeed, calculators have remarked, that there were more married women alive at great ages, than of those who remained single. But such result might naturally be expected from a greater proportion in the decline of life of widows and wives, compared to antiquated virgins. From the ages of fifteen to twenty-five, married women likewise are said to have the advantage
of

of the fingle, in whom the dictates of nature are frustrated and violated.

Comparing the mortality of the Seasons, Dr. Short found, from a variety of country-registers, that mortality generally begins its reign in December; that at March it is in its zenith; and at May in its declension. In twenty-five country towns and parishes, he found the winter to the summer mortality as 50 to 41. At Manchester, a country town of England, Dr. Percival found the winter to the summer mortality as 11 to 8. At Vevey, in Switzerland, during sixty years, Mr. Muret found the burials, during the four winter months, as 5 to 4 to those of the summer. Another proof of this is recorded in the *Rocherches sur la Population, par Messance*: The total sick admitted into the *Hotel Dieu* hospital in Paris, from 1724 to 1763 (forty years) were, in the four winter months, December, January, February, and March, 314,824; and in the four summer months, June, July, August, September, 238,522; or as 4 to 3. In London too, the undertaker's harvest is in winter. There is one obvious reason why, in every metropolis, the
winter

winter mortality should exceed that of summer, from the greater concourse of inhabitants of all ranks : but, independent of additional population in winter, the same law seems to prevail in country places. In a subsequent part I shall attempt to throw some collateral illustration upon the subject.

Let us close this humiliating scene with a general abstract of human carnage. If we scan the dolorous mansions of disease, we find, on an average, 1 death, annually, out of every 5 families in cities : but in country towns, and open districts, 1 of 7, 8, 9 ; and in a few healthy places, 1 of every 10 families. Including the whole assemblage of inhabitants in city, town, and country, from birth to the extreme of existence, they are computed to die in the following annual proportion to the living : In London, 1 of 21 ; Dublin, 1 of 22 ; Edinburgh, 1 of 21 ; Vienna, 1 of 20 ; Amsterdam, 1 of 22 ; Berlin, 1 of 26. This is nearly Dr. Price's calculation ; but Halley and Sufmilch compute only 1 of 22 to 29 to die annually in cities. In smaller cities and towns, such as Norwich and Northampton, the general

ral average of deaths is 1 of 24 to 26; but in several provinces and healthy country villages, 1 of 32 and 33, up to 45, 50, and even 60, is the annual drain: 1 of 43 to 50 was the average in upwards of a thousand country parishes on the continent; and recorded in Sufmilch. Within the above short intervals of time, there will have died in the respective cities and country places enumerated, a number equal to the whole inhabitants. But the annual decrease of the oppressed Negroes, in the West India islands, is estimated at 1 of 7.

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The ancient Egyptians allotted 3 generations to a century, which is bordering upon the truth; at this day, 1 of 32 and 33 up to 35, is near the measure of a generation, and to the general decrease of a community throughout Europe, comprehending all the inhabitants in city, village, and country: that is, mankind share amongst them from about 32 and 33 to 35 years each of existence: and within this fugitive interval of time, a number equal to all the present inhabitants of this island, or of the whole earth, will be exterminated. If we extend this estimate

mate to the whole human race, eight hundred million will die in 33 years; about twenty-eight million annually; seventy or eighty thousand daily; about three thousand hourly; and from fifty to sixty every minute. It is perhaps superfluous to add, that, in the same intervals, an equal or superior number will be born.

According to De Moivre and Dr. Price,
 “ the probabilities or expectation of life, de-
 “ crease as we advance from childhood to
 “ old age, in an arithmetical progression;
 “ that is, in such a manner that the differ-
 “ ence is always the same between the
 “ number of persons living at the begin-
 “ ning of any one year, and the number
 “ living at the beginning of the following
 “ year.” Or, in other words, less enve-
 loped in mathematical obscurity, out of any
 specified number, an hundred or a thousand,
 the same proportion will continue to die
 every year until near 80 years of age and
 upwards: consequently, the probabilities of
 life are constantly decreasing; because not-
 withstanding the progressive annual drain
 from the capitals, yet the deaths continue
 E 2 throughout

throughout equal. But this proportion is certainly erroneous in the first stages of life, and until about 10. View the above proposition in another light.

From any given number there will be an equal drain annually, until what De Moivre terms the *complement* or *maximum*, or utmost probable extreme of life, which he fixes at 86, all are dead. The probability, therefore, that the whole of any limited number whatsoever, or age, will all be exterminated is the number of years between 86 and the year such a number are all alive. Of 56 persons alive at 30, they should all be dead in 56 years, because 56 added to 30 amounts to 86, the maximum: of 46 persons alive at 40 years of age, they should all be dead in 46 years: and 36 persons alive at 50 years of age, should be dead in 36 years; for 50 and 36 complete the maximum. Again, the expectation of any single life is only half the maximum or complement, or half the space between that age and the ultimate term of existence: but here we must repeat the former exception, and draw the line after 10 years

years of age. The expectation of two equal joint lives, according to De Moivre, is one third of the complement of life. Example: two lives, aged 40, have an even chance or probable prospect of continuing together in existence only 15 years; which is the third of the complement, reckoning from 40 to 86: the expectation of the survivor is also 15. Or, suppose a lot of marriages of persons at 40 years of age, they will, on an average, continue together $15\frac{1}{2}$ years; and the survivors the same time after. This expectation, therefore, is the probable duration of each marriage, and the share of each person's life. But it may be proper to add, that the duration of marriages, and the value of single and joint lives, will, on a promiscuous calculation, be different from the registers of annuitant and insurance offices; because they are scrupulously vigilant to exclude all diseased and unhealthy persons from becoming members.

The following Chart and Tables, present a distinct prospect of the fates clipping the mortal thread, from birth to old age, in

city and country. But we are not to suppose that in every instance there will be annually a regular arithmetical diminution, as marked in the different tables: some years will be more fatal than others; and we are to form estimates from an average of several years. The first column points out the age, the second the number living at that age, the third the number who die during the year; and so on to the end of the table. But observe, that the number of infants, at the beginning of the second column, are supposed to be all born together on the first day of that year; and this rule applies throughout all the remaining ages. The two short tables of 15 and 30 years mortality in London, demonstrate the gradations at longer intervals than a single year. From these different tables may be estimated the annual waste, out of any specified number, at all ages, the ultimate prospects of existence, and the odds or probability of a person in health surviving a stated number of years.

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The two following TABLES are taken from Dr. Price. I have however omitted the fractions, for reasons which shall be explained when treating of the inaccuracy of the public registers. The expectations of life are here rated a few years inferior to the standard of most other authors.

The probable Expectations or Prospects of Life in

| Ages. | London. | Vienna. | Berlin. | Country parish of Brandenburg. | Holy Cross, near Shrewsbury. | Pais de Vaud, in Switzerland. |
|----------|---------|---------|---------|--------------------------------|------------------------------|-------------------------------|
| At birth | 18 yrs. | 17 yrs. | 18 yrs. | 33 yrs. | 33 yrs. | 37 yrs. |
| Age 12 | 34 | 36 | 36 | 44 | 44 | 44 |
| 25 | 26 | 28 | 27 | 36 | 35 | 35 |
| 30 | 24 | 26 | 25 | 32 | 32 | 31 |
| 35 | 22 | 23 | 24 | 26 | 28 | 28 |
| 40 | 20 | 21 | 21 | 25 | 26 | 24 |
| 45 | 18 | 18 | 19 | 22 | 23 | 21 |
| 50 | 16 | 16 | 16 | 18 | 20 | 18 |
| 55 | 14 | 14 | 14 | 15 | 17 | 15 |
| 60 | 13 | 12 | 13 | 12 | 15 | 12 |
| 65 | 11 | 10 | 11 | 10 | 12 | 10 |
| 70 | 9 | 9 | 9 | 8 | 10 | 8 |
| 75 | 7 | 7 | 7 | 6 | 8 | 6 |
| 80 | 5 | 6 | 6 | 5 | 5 | 5 |

The Odds or Probability of living ONE Year in

| Ages. | London. | Vienna. | Berlin. | Country parish of Brandenburg. | Holy Cross, near Shrewsbury. | Pais de Vaud, in Switzerland. |
|----------|---------|---------|----------|--------------------------------|------------------------------|-------------------------------|
| At birth | 2 to 1 | 2 to 1 | 2 to 1 | 4 to 1 | 5 to 1 | 5 to 1 |
| Age 12 | 75 to 1 | 84 to 1 | 123 to 1 | 112 to 1 | 144 to 1 | 160 to 1 |
| 25 | 56 to 1 | 66 to 1 | 50 to 1 | 110 to 1 | 100 to 1 | 117 to 1 |
| 30 | 45 to 1 | 56 to 1 | 44 to 1 | 107 to 1 | 96 to 1 | 111 to 1 |
| 40 | 31 to 1 | 36 to 1 | 32 to 1 | 78 to 1 | 55 to 1 | 83 to 1 |
| 50 | 24 to 1 | 27 to 1 | 30 to 1 | 50 to 1 | 50 to 1 | 49 to 1 |
| 60 | 18 to 1 | 19 to 1 | 18 to 1 | 25 to 1 | 26 to 1 | 23 to 1 |
| 70 | 12 to 1 | 11 to 1 | 12 to 1 | 11 to 1 | 16 to 1 | 10 to 1 |
| 80 | 7 to 1 | 7 to 1 | 7 to 1 | 6 to 1 | 8 to 1 | 4 to 1 |

Having in the preceding part endeavoured to establish the mortality of the human species at different ages, I am now to attempt a more arduous task ; to ascertain the mortality by different diseases. I propose therefore, in imitation of the geographers, to spread out and to review, in one general Chart, the enormous host of diseases which disgorge their virulence over the earth, and, with frightful rapacity, wage incessant hostilities with mankind. By this means, we shall, to use a military phrase, reconnoitre more distinctly our enemies arranged in hostile front ; and be warned to make the best disposition and preparation for defence where the greatest danger is apprehended, and the most formidable assaults to be sustained. Armed with diseases, the grim King of Terrors appears in the most hideous aspect. Under all these predatory disguises and morbid forms, I shall track him grappling with mankind, and with his tremendous scythe mowing down generations. The learned Sauvages thus expresses himself : “ *Utinam numerus respectivus diversorum morborum a nostratibus inquirarentur.*” It is, in some measure,

sure, from ignorance in this subject, that the streams of medical inquiries, of academic rudiments, and of charitable donations to poverty in disease, have not yet been pointedly directed to publick utility.

I could easily have exhibited tables of the Diseases and Casualties in London during the greater part of the last century. But, compared to its present magnitude, the British metropolis was then insignificant in size: 23 new parishes have been since gradually added to the London bills: there is also a chasm of 10 years in which the registers are lost. Again, until 1665 and 6, London was infested with the plague; which disease, previous to that date, seems to have been one primary object of the registers: and to adopt Graunt and Short's sentiments, these records, from various political and religious obstacles, were then very negligently managed. During the early part of this interval, the kingdom was distracted with civil war; and after the great pestilence in 1665, London must have required some years to recruit. Besides, had I attempted to form tables for even
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the latter part of the last century, the reader would have been fruitlessly embarrassed; and such an attempt must ever prove abortive. For example, under one and the same title, in the annual bills of mortality, are often confounded flux, small pox, and measles: consumptions and tiffick: cancer, canker, and thrush: wolf, cancer, gangrene, and fistula: cancer, gangrene, fistula, and mortification: gout and sciatica: vapours and water in the head: quinsy and thrush: teeth and worms: sores, ulcers, bruised and broken limbs: cough, cold, and chincough, &c. These are a few specimens of Nosological absurdity in the superintendants of the publick registers.

Notwithstanding this rabble of diseases in commenting upon the London bills and diseases of the present century, I constantly refer back, and contrast them with the bills of the last thirty years of the preceding century; so that, as near as the imperfection of the materials will admit, the mortality and diseases of 105 years in London is presented at one view; and comprehends the various acute and chronic diseases

eases, by which about two million and a half of the human species have been destroyed. The few authors who have written on bills of mortality, have obscured their works in a cloud of figures and calculation : the reader must have no small portion of phlegm and resolution to follow them throughout with attention : they often tax the memory and patience with a numerical superfluity, even to a nuisance.

For the above, and many other reasons, I have compressed into one chart, the London Diseases and Casualties of seventy-five years in the present century : each disease and casualty arranged in a progressive series of fifteen years mortality ; in a fifth column is added together the mortality of the preceding five divisions. During this period, London has been more populous and stationary in numbers : and by this means, the actual and comparative magnitude, rise, and declension of different diseases, will be more conspicuous in each period or interval : and by measuring the mortality with the population, we are enabled, with certain precautions and exceptions,

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to make the diseases and casualties of London serve as a morbid barometer to the whole nation. The important reason which determined me in forming an arrangement of fifteen years, in preference to any other number or period, was, that the annual havock by similar diseases and casualties, throughout this and the neighbouring island, might be computed with some probability by each fifteen years of the London bills; and thereby to elicit a new, curious, and comprehensive proposition in medicine. For instance, if we suppose the standing number, on an average, of the London inhabitants at six hundred thousand; and the total inhabitants in Britain and Ireland at nine million; and if the same diseases and casualties were equally diffused and fatal to this whole community, then, in such case, the London bills would serve as a scale or index of mortality to both kingdoms: as many would die annually of every disease and casualty throughout nine million, as are cut off in fifteen years in London; for six hundred thousand multiplied by fifteen, amounts to nine million.

But

But to supply the probable deficiency in the annual mortality of London by different diseases and casualties, we must make an addition to each of one third or fourth. To the mortality of Small-Pox, in London, during fifteen years, and rated at thirty thousand, we should add one third or fourth more to raise it to its just standard; that is, to about thirty-eight thousand; which would be the annual mortality amongst nine million in Britain and Ireland, supposing small-pox equally universal, one time or other, and destructive. By the same hypothesis, amongst two hundred million in Europe Variolous mortality annually, would amount to four hundred thousand; and, amongst eight hundred million; that is, the whole human race would exceed three million annually. On this simple principle, a gross estimate may be formed of the annual havock by every other disease and casualty; taking the precaution, however, to attend to the subsequent criticisms on the London bills.

Another curious corollary may be grounded on the above hypothesis; which is, to form a probable conjecture of the numbers who are
 annually

annually Sick, or afflicted with different diseases. Example: if one of every seven die of the Small Pox, and the variolous deaths throughout Britain and Ireland are rated at thirty-eight thousand annually, this number, multiplied by seven, amounts to two hundred and sixty-six thousand annually, infected with variolous contagion. Apply the same rule to Childbed mortality; rate the annual havock by parturition in the two islands at four thousand: it will hereafter be shewn, that in London one of seventy-four women die in childbed: multiply therefore 4,000 by 74, the product is 296,000, which, in reality, cannot be very distant from the total annual procreation in both islands. And in these two examples, I have suggested what may be termed an inverse proof of both propositions. From these tables and commentaries, we are likewise furnished with a key to the comparative mortality of each disease amongst a community: whether its devastation is in the proportion of a fifth, tenth, twentieth, or hundredth. Gentlemen who have not particularly attended to the subject of morbid calculations (and very few

few of the medical profession have) will, on better information, be astonished at the flagrant errors daily committed by authors when treating of these topics. Out of the many examples which might be enumerated, I shall merely select one in proof. Baron Dimsdale, in a Treatise on Inoculation, dedicated to the present Empress of Russia, calculated that, at least, two million were annually destroyed by Small Pox alone in the Russian empire; and it was not until after the publication of my Observations on his different Inoculating Essays, that this error and others were erased.

I would request the reader's particular attention to another circumstance: which is, that on comparing the gradations of mortality in the following chart, we are not to estimate the relative number, frequency, or proportion of certain diseases, compared to others by the absolute mortality of each. For instance, Apoplexy kills rather more annually in London than Measles; but yet the latter disease is infinitely more universal and diffused amongst the community, and consequently less danger-

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ous to life : Cancerous and Venereal cafes are widely different in the annual number afflicted with each, although the deaths are not far distant from an equality. The same observations will apply to Rheumatism, compared to the Dropsy, and to many other diseases.

There are between eighty and ninety diseases and casualties enumerated in the London bills, which, in the subsequent comments, I have disentangled into their separate genera. But, to prevent the possibility of aberration, after the chart of London diseases, I have added a correct Medical Chart of all the principal diseases and casualties with which mankind, in every part of the earth and ocean, are afflicted or harrassed. This will operate as a check and correction to the public registers; and by this, the defects and errors in the London bills will be apparent; and it will serve as an index to our future commentaries. But objections and difficulties occur in our researches for collateral information and illustration from hospital records. The reasons are glaring, why, in the latter, diseases

eases should be less fatal; and in this respect, cities should have the advantage of the country. We cannot therefore apply hospital registers as a general criterion to a nation. Whenever authentic and systematic records of diseases, recovery, and mortality, are kept in hospitals, domestick as well as military, and annually published, whatever may be alledged respecting the importance and demerits of such institutions, the community, at all events, will derive much useful information.

*A MEDICAL CATALOGUE of all
the principal Diseases and Casualties by which
the Human Species are destroyed or annoyed.*

FEVERS. Intermittent, quotidian, tertian, quartan, species and varieties.

—— Remittent, Continued, and Eruptive; remittent, and the species, nervous and putrid, miliary, inflammatory, small pox natural and inoculated, measles, scarlet fever, some cutaneous eruptions, mixed and anomalous fevers, plague, sweating sickness.

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FEVERS

FEVERS with topical inflammation of the brain, of the fauces, including angina inflammatory and putrid, pleurisy, and peripneumony, inflammations of the heart, diaphragm, liver, spleen, stomach, intestines, kidneys and ureters, bladder, peritoneum, erysipelas, acute and chronic rheumatism, regular and irregular gout. Internal suppuration and gangrene.

Injured respiration and coughs, catarrh, pulmonary hæmorrhage, pulmonary consumption, hectic, atrophy and tabes, asthma, whooping cough, croup.

Natal hemorrhage, headach, nightmare, lethargy, vertigo, apoplexy, epilepsy, fainting, resemblance of death from drowning, foul air, &c. palpitation of the heart, internal polypus and aneurism, tetanus and locked jaw, catalepsy, spasm, cramp, Saint Vitus's dance, tremor, palsy, berbiers, insanity furious and melancholy, hypochondriasm.

Diseases of the sight, hearing, smell, taste, voice, and speech, sterility of the sexes, morbid irritability of the genitals, diseases of the teeth, deglutition obstructed.

Diseases of the stomach, and of the complex organization, subservient to appetite and digestion,

digestion, gall-stones, jaundice, cholera, dysentery, diarrhæa, cholick, worms, tenesmus, costiveness, hemorrhage from the stomach and anus.

Morbid symptoms and diseases from various poisons, canine madness, venomous bites and stings.

Obstruction and suppression of urine, stone in the bladder, diabetes and incontinence of urine, ulcers of the kidney and bladder, bloody urine.

Watery effusions, or dropsies of the head, spine, chest, pericardium, external cellular membrane, abdomen, ovarium, fallopian tubes, womb, scrotum, tympany, corpulency, and excess of fat.

Venereal disease, scurvy, scrophula, leprosy, yaws, itch, several chronic cutaneous defecations, morb. pedicul.

FEMALE DISEASES. Obstruct. mens. chlorosis, excessive menstr. fluor alb. hystericks, pregnancy, parturition, natural, laborious, preternatural, and complex, some diseases during pregnancy, abortion and miscarriage, uterine hemorrhage, fainting, convulsions, locheal excess and suppression, uterine inflammation, puerperal

fever, after-pains, weed, milk fever, inflammation of the breast, excess and defect of milk.

INFANT DISEASES. Convulsions, internal spasms, dentition, rickets, thrush.

N. B. Vomiting, diarrhœa and watery gripes, hectick and atrophy, small pox, measles, rash, whooping cough and worms, dropsy of the head and spine, are before described, under their respective titles.

Internal schirrus affecting various parts, the lungs, stomach, intestines, liver, spleen, kidneys, ovaria, womb, testicles; also internal cancer, external scirrhus and cancer.

External inflammation, suppuration, gangrene, burns, wounds, and contusions, fractures simple and compound, luxations and sprains, herniæ, or ruptures, abscess and ulcers, white swelling, spinaventosa, external aneurism and varix, polypus of the nose, fauces, vagina, womb, wens, bronchocele, corns, warts, chilblains.

An abstract of the general causes of diseases and mortality, of the seasons and elements, food and drink, excretions and secretions, exercise

exercise and rest, sleep and waking, passions of mind, venery.

An abstract of mortality in various domestic and military hospitals,

The Poet has, in just and emphatical language, stiled health the vital principle of bliss. In the rude state of science and medicine, and in the ages of superstition and credulity, it was usual to ascribe diseases to the immediate resentment of some invisible demon, or to divine displeasure and chastisement; on which account, in barbarous nations, their physicians have been a set of stupid conjurers. Two centuries have barely elapsed, since the people of England could, with difficulty, be persuaded that the jail distemper, communicated at the Oxford assizes, from the prisoners to the spectators, was not kindled up by witchcraft and necromancy: but learning and philosophy have now discarded such supernatural agents. Others again equally err, in supposing diseases to be unsteady motions of the human machine, excited by something hurtful. This popular error seems to origi-

nate from confounding diseases themselves with the versatility of medical remedies and practice. Beyond a doubt, diseases are presented to us, over and over again, in nearly the same form and shape: the diseases delineated two thousand years ago by Hippocrates, at this day retain the same essential marks and prominent features; tho' in degree and violence, there are many gradations and shades to vary the picture.

A disease, in the pathological language, is when one or more of the various corporeal or mental functions, cannot be performed as in usual health. The symptoms of all diseases are indicated by few or many derangements of the corporeal functions, of the excretions, and of the sensible qualities: such are pain, disagreeable sensation, anxiety, irritation internal or external; the exercise of some of the external or internal senses impeded; of sleep and waking; of the muscular or moving fibres; of the digestive and intestinal functions: of the lacteal, lymphatic, or absorbent system; of the respiration, sanguiferous circulation, and arterial pulsation; of the different excretions
and

and secretions, the feces, urine, perspiration, bile, pancreatic fluid, saliva, milk, menses, semen, mucus, oil, lymph, and extravasated blood: by the countenance, actions, gestures, debility, strength, heat, colour, smell, taste, magnitude, hardness, softness, the nature and appearance of the excretions, &c. I studiously avoid all minute pathological discrimination of symptoms; as symptoms of the disease, of the cause, of symptoms, of reacting nature; of primary, pathognomic, accidental, and accessory symptoms. Nor in briefly enumerating the various causes of diseases, shall I waste time in the explanation of what may be learned from pathological systems and vocabularies: such as the technical distinction of causes into external and internal, predisponent, exciting and occasional, remote and proximate.

There is both fiction and much truth in the warbling melody of the Roman poet: "Post ignem etherea domo subductum
"macies, et nova febrium cohors incu-
"buit terris." Consumptions and Fevers we see, by arithmetical demonstration, are

amongst the most universal and fatal maladies of our metropolis and Island. I begin this morbid survey with the latter. The principal and most general febrile epidemics which infested England during two intire centuries, are enumerated in a short abstract, by Dr. Short; and consist of plagues, agues, remittent fevers, summer and autumnal dysenteries, spotted putrid fevers, slow fevers, small pox, measles, putrid and contagious peripneumonies, fatal spring pleurifies, and peripneumonies, and epidemical catarrhs. Throughout all countries, in epidemical diseases, there are years when they are more or less prevalent. Great national calamities, from this source, are rare: none ever inundate a whole kingdom (catarrh in some instances excepted): they sometimes indeed spread from one province to another, but all the community are never attacked at once; nor are large populous kingdoms, or even cities, totally exempt from them. Fevers of various generic forms, as intermittent, remittent, nervous and putrid, scarlet, small-pox, measles, &c. may be local and circumscribed to one city or district, whilst others in the vicinity,

nity, continue at the same time healthy; the disease dissipating its virulence within a small boundary. From a comparison of 150 different parish registers, Dr. Short calculates, that within a certain period, some have had 8 to 14 sickly years, and others, in the same interval, only one. He estimates 5, 6, and 8 years interval, as a common routine of irruption by some epidemical distemper, even in remote country parishes: and a few of them have been so fortunate as to escape any uncommon or remarkable mortality during 11, 12, or even 20 and 30 years. In all the seasons denominated sickly in the country parishes, the burials exceeded the christenings; and according to the nature of the epidemick, the morbid state of the seasons, the medical treatment, and many other circumstances, the gradations of mortality, even by the same disease, were extremely various.

Collating the annual average of deaths in a sickly year of London, and other great cities, with sickly years in the country parishes, Dr. Short found, that cities and towns, in this respect, have the advantage of the country.

country. In spacious open country districts, where fatal epidemics burst out, according to this author, more died in one year than during 6, 10, 12, or sometimes 15 healthy years: whereas, says he, in London, and such other cities, not above one third, fourth, or fifth beyond the ordinary consumption are swept away. Pestilential mortality is a solitary exception to this proposition. In the London bills we may frequently observe, that in different months, the deaths are double or treble above equal periods of the same year: but during the present century, I find no instance of triple, very rarely of double excess in the annual London burials. Dr. Short adds, that mortality is more constant and regular in cities, and not so many destroyed “per saltum” from raging epidemics, as in the country. In pure open air, he suggests, that contagion and infection, or other adulterated effluvia, are more virulent. Or perhaps he should have said, or at least have added, that in cities where the atmosphere is charged with a load of smoke, and other heterogeneous vapours, epidemical poisons may be blunted, decomposed, or annihilated;

lated: that likewise in cities, human bodies are more early seasoned and habituated to such noxious external impressions, and, like doctors and nurses, are in some degree fortified by habit: that besides, in every large metropolis, small-pox, measles, and, some other febrile epidemics, are almost constant residents; and consequently the devastation from these diseases is more regular and equal than in the country, where several years intervene between their invasions.

The absolute mortality by fevers in the London bills, without including the small pox and measles, amounts to nearly one seventh of the whole funeral catalogue. In the London dispensaries, the Aldersgate and Westminster, and in the Newcastle hospital, fevers were a fourth and sixth to all other diseases. De Haen computes, that out of two thousand sick, admitted into the hospitals in Vienna, seven hundred of them laboured under acute and febrile diseases. Dr. Cleghorn estimates the summer fevers in that warm Mediterranean island Minorca, as constituting three-fourths of all the diseases

eases in that island. Dr. Lind calculates, that nineteen out of twenty of all the numerous Europeans who visit the sultry climates of Africa, America, and of the East and West Indies, are destroyed by intermittent, remittent fevers, and fluxes; and probably he also should have added, or by chronic diseases and broken constitutions, the consequence of those fevers. In the London bills of mortality, many different genera of fevers are crammed into one indiscriminate heap, from which it is impossible to extricate the specific nature or genus of febrile carnage. I was anxious to determine with some probability, the ratio of desolation in London, by each of the different febrile genera: because it would be an important guide to the prevention and cure. I knew that most of our hospital registers were in this particularly defective; on that account I was favoured by a medical friend, with the perusal of the books of the Aldersgate dispensary. But although no gentlemen are better qualified to discriminate diseases, I perceived, on inspection, that too often the genus of fevers was not marked, only by the general outlines of the class.

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However, I converted this scrutiny to some other use, as will hereafter appear.

We shall first trace the prominent features of the general febrile Class, descending progressively through the different Orders and Genera. In most fevers, of whatever genus, one or more of the following symptoms occur: shivering, chilliness, and heat of the skin alternating: the circulation of the blood, and consequently of the pulse, as felt at the wrist, accelerated more than in the natural state; in adults, to upwards of 96 strokes every minute; and in infants, is considerably more increased in velocity: also general languor, lassitude, and debility of the nerves and muscles; dryness of the mouth and tongue, thirst; little or no sleep, or disturbed and not refreshing, and generally headach: in most of the continued and remittent fevers, there is total suspension of appetite, sickness at the stomach, nausea and vomiting; increased heat of the skin, at least burning sensation; aversion to motion; the sick are mostly confined to bed, unable to walk, or frequently even to sit erect; and this is commonly

monly the case, even in the intermittent genera during the febrile paroxysm: the remittent and continued have usually an evening or nocturnal febrile exacerbation: the voice and countenance frequently express condolence: and in the genera of topical inflammations, there is fixed pain in the different parts affected.

Intermittent Fevers, or Agues, notwithstanding their febrile type, fall under the Chronic class. They are usually distinguished into different genera, or types; into Quotidian, Tertian, Quartan, with their separate species and varieties. It would seem, by the London registers, that very few die of agues, from which no age is exempted, but to which adults are much more obnoxious. Intermittent havock, if not immediately, yet in its chronic effects, is far more fatal than the London bills represent. Towns in general, it is true, are less harrassed with agues than country places. Pringle remarks, that during the campaigns of the British troops in the marshy countries of Holland and Flanders, where, in all such climates, and in damp soils and situations, agues and
remittent

remittent fevers are epidemick, that the soldiers quartered in towns were less afflicted than those stationed in country cantonments: that in the former, the fires, sewers, drains, and paved streets, prevented an exuberance of moisture: and that, if the men slept in the upper floors of the house, they were still more secure from damp and inter-mittent sickness.

The invasion of Intermittent Paroxisms, is during certain periods only, and generally consists of a successive series of shivering and cold, burning heat, and profuse sweats: and exhibits the fundamental outlines of all fevers. Intermittent paroxisms, and consequently the genera and species, vary in duration, in recurrence, and in the symptoms. Quotidians, Tertians, and Quartans, consist of paroxisms, at the respective intervals of 24, 48, and 72 hours. An interval denotes the length of time from the beginning of one paroxism to the next succeeding: an intermission the vacation between paroxisms. Other distinctions, perhaps too refined, are made of intermittents, as *Quintanæ*, *Septiminæ*, *Decimanæ*, *Erraticæ*, *Vagæ*. Each of the
three

three primary intermittent genera, are likewise subdivided into duplex and triplex. The double tertian is a very universal form, but may be referred to remittents: it implies that every other or second day the paroxysms are similar, but different in the intermediate days. Again, the type of intermittents is often obscured under a cloud of irregular and adventitious symptoms; and from one predominant symptom, or from similarity to various other diseases, these three fundamental genera are split by Nosologists into other species and varieties; the Quotidiana or intermittens, into simplex, cephalalgica, ophthalmica, nephralgica, stranguriosa, ischiadica, sputatoria, catarrhalis, anginosa, epileptica, hysterica, partialis: the Tertiana into simplex, hemitritæa, duplex, triplex, pleuritica, asthmatica, arthritica, emetica, hysterica, apoplectica, urticata, and other species of double tertian enumerated under the remittent type: the Quartana into cataleptica, epileptica, hysterica, mania, comatosa, nephralgica, splenetica, arthritica.

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The three stages of intermittent fevers, during their periodical revolution, affect, more or less, the brain and nerves, the inherent muscular power, the heart and arteries, the stomach and intestines, and the sensible qualities of the body; the symptoms usually succeeding in the following progressive order: languor, sluggishness, debility, impaired sensibility, sometimes drowsiness and coma, oscitation, sensation of coldness in the back and spine, overspreading the body and extremities; accelerated and weak pulse; laborious respiration with anxiety; impaired appetite, and often sickness, nausea, and vomiting of bile; thirst; limpid urine; pale face, extremities, and trunk, and cutaneous collapse; rigor and trembling of the extremities and trunk, and gnashing of the teeth, as if cold water was poured on the body. This stage is various in duration in different persons, and in the different intermittent types. Nature at length rallies its powers with success, and with the expulsion of the cold, the second or hot stage is kindled up with undulating flushes of heat, and its preternatural increase over the body; the cutaneous blood

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vessels

vessels are dilated with suffusion of the countenance, redness, and burning heat; the pulse becomes strong, full, and more regular; the respiration continues oppressed, and is accelerated; with headach, throbbing of the temporal arteries, and sometimes delirium. After some continuance of this febrile struggle, and tumultuary rage of the re-acting organs of sensation and motion, the third stage of sweat is introduced by some moisture oozing throughout all the cutaneous pores, and poured out often in profuse streams: with this the heat of the body, the pulse, respiration and appetite become more natural; the urine less transparent deposits a sediment; the febrile tempest abates to a calm; and the body recovers the exercise of all its usual functions. Sometimes indeed there are varieties; such as little or no cold stage, or sweat.

Intermittent paroxysms are always terminated in less than twenty-four hours. Quotidians have the least cold stage, but the longest paroxysm: tertians are in the intermediate degree in both respects; quartans have the most violent, or at least the longest

longest cold stage, but the shortest parox-
 ism: their cold stage may be two hours,
 or longer. The hot and sweating stages
 therefore constitute the greatest portion of
 intermittent conflict. Quotidian paroxysms
 rarely exceed eighteen hours: tertians are
 from six to twelve: quartans somewhat short-
 er. Quotidians generally assault in the morn-
 ing; tertians and quartans in the noon and
 afternoon. Vernal are said not to be so re-
 fractory as autumnal intermittents. But in
 young sound constitutions, agues, if not inve-
 terate, are frequently cured after a few parox-
 isms. When death happens in them, it is
 generally during the cold stage. More fre-
 quently their fatality is by transition into
 some other chronic diseases: such as maladies
 of the stomach, digestive organs, liver, and
 intestinal tube; bilious cachexy, jaundice,
 consumptions, dropsy. Some inveterate cor-
 poreal infirmities have been relieved by in-
 termittents. During their revolution the
 type is frequently changed: quartan and
 tertian into quotidian: the latter into remit-
 tent; and these into continued fever.

Remittent Fevers: fevers with remissions and exacerbations, or which have not a temporary and total cessation, are the most universal febrile form in all parts of the globe. Throughout the equatorial oven, or middle regions of the earth, from Cancer to Capricorn, intermittents, but, above all, remittents and dysenteries are the most universal type of fever. They are the locusts which devour whole crops of mankind. During the periodical rainy seasons of the tropical zones; particularly where they are choaked up with woods and morasses, and in uncultivated new settlements, these fevers often ravage with the desolation of an Egyptian pestilence; and are sometimes so precipitate as to kill in one or two paroxysms, if not sooner repulsed; the doctor, lawyer, and priest quickly succeeding each other in their visits. They destroy not only multitudes immediately, especially of the new European settlers; but when improperly treated, or when convalescents from irregularity, fall back into relapses, they often terminate in fatal chronic diseases, similar to those recently enumerated under the intermittent train.

Not

Not only within the tropicks, but likewise through the northern hemisphere, to the verge nearly of the polar circles, we can descry this remittent febrile host. In the sultry summer and autumnal seasons of Europe, in low marshy countries, soils and situations such as Italy and Hungary, where the summers are long and intense ; and in that northern morass, Holland, these are the epidemical tyrants. Armies encamped are often at that season grievously infested with them, and with dysenteric fluxes. In Britain and Ireland also, they are frequent and fatal epidemics ; and are not confined to the summer season only. Even in most dry countries and situations without the tropicks, after an unusual close sultry summer, with long protracted heats, we often see, or read of, such fevers and fluxes. The humours then, says Pringle, are corrupted, the solids relaxed ; and in such a disposition of body, irregularities in diet, wet cloaths, and damp air, may give activity to such latent indisposition. In that small southern Mediterranean island, as described by Cleghorn, where the soil is rocky, but the summer heats excessive, such fevers have raged with atrocious severity.

Fevers intermittent and remittent, and those strictly simple inflammatory, are greatly regulated, not only by the climate, latitude, soil, local elevation or depression, but also in the same country by the different seasons of the year. In summer and autumn, fevers tend in various degrees to affect the stomach and intestines with sickness; they are then, more or less remittent, and participate less of the inflammatory. "In Holland," continues Pringle, "towards June, a healthy month, "the inflammatory fevers begin to recede; "and the remittent, bilious, and putrid often "succeed throughout the summer and autumn, until the return of winter, when the "inflammatory again recommence; the seasons and diseases insensibly interchanging "and running into each other." We may also add, that in all warm climates there is a copious and superabundant secretion of bile; and that none of the animal fluids so soon turn putrid. They are more obnoxious to remittent fevers who are constantly exercised in labour and fatigue, and exposed to the external air, than other ranks who are comfortably accommodated, clothed, and fed. Pringle remarks, that the peasants of Holland were

were always greater sufferers by the summer, autumnal, and remittent fevers, than those of the more opulent class ; and also, that during summer and winter, in the field and in garrison, the private soldiers were more sickly than the officers, and liable to fevers.

Remittent fevers seem to consist of a repetition of protracted diurnal paroxysms, or periodical aggravated exacerbations, nearly similar to the intermittent or primitive type ; but without the latter's complete intermission. Authors have described them under a variety of appellations ; but they may be all comprehended as ramifications of one great trunk, or integral genus : they appear in essence the same disease, and are cured by similar remedies. In the medical nomenclature, they are denominated remittent, semitertian, hemitritea, tritophyea, double and triple tertian, putrid remittent, marsh, camp, ardent, bilious fevers, gall sickness : tertian fever obscured under a mist of one or more dangerous and prominent symptoms ; hence named tertiana lethargica, vertiginosa, soporosa, apoplectica, paralytica, cataleptica, epileptica, convulsiva, phrenitica, hysterica, syn-

copalis, asthmatica, arthritica, cardialgica, singultuosa, rheumatica, pleuritica, dysenterica, atrabilaria, cholericæ, emetica, diaphoretica, pituitosa, miliaris, scorbutica.

Exclusive of the symptoms common to such fevers, and partly delineated under the intermittent paroxysm, remittent fevers are variously diversified by a rotine and medley of nervous, putrid, and inflammatory symptoms ; but infinitely more of the two former. The climate, season of the year, remissions, and the notorious epidemick or endemick of that region or place, all contribute to their unerring detection. Sometimes they attack very suddenly and violently with delirium and inflammatory simulation ; but soon afterwards, and at the interval of a few days, remissions are evident. Sometimes their approach is in appearance mild, but not less alarming. In general there are great lassitude, debility, anxiety, restlessness, severe headach, frequently delirium, especially at the exacerbations ; disturbed sleep, and not refreshing ; sickness at the stomach, nausea, bilious vomiting, or efforts to evacuate the ventricular contents ; fecal excretion bilious

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ous with gripes ; inextinguishable thirst ; tongue dry and parched ; quick hot respiration ; skin sometimes dry. When bile is redundant, the intestinal excretion is often putrid and offensive, with bilious diarrhea or dysentery, in repetition and quantity profuse, exciting tenesmus, and sometimes excoriation of the anus ; to these may be added pain in the stomach and intestines, tension and elevation of the belly. According to Lind, the tropical remittents are the most virulent, yet are not contagious, unless accompanied with dysentery, or the sick crowded together ; which, if an irrefragable fact, distinguishes this fever from the nervous and putrid : and besides, in those febrile epidemics and endemics, from marshy effluvia, the remissions are more perceptible and synchronous than in these from animal contagion. From the air, season, and medical treatment, the remittent may be converted into the intermittent or continued type : in the intermittent there is more security. In warm climates putrescency and death may ensue in a few paroxysms ; in others, in all the intervals during three weeks : and usually the crisis is by some of the larger excretories.

Nervous

Nervous and Putrid Fevers. This febrile host are also widely dispersed over the earth ; and probably are not so much governed or influenced as the preceding remittents by the climate, season, and sensible qualities of the atmosphere ; but may originate in all countries, climates, seasons, and situations ; and when extremely virulent, may, like the plague or small pox, be communicated by imperceptible emanation or contagion from one infected person to another ; by personal intercourse, by the medium of polluted goods, furniture, apparel, cloaths, and houses ; in all which the noxious miasma may be concentrated and lodged. Sometimes they harraßs a nation or city in detachment only ; and sometimes in formidable phalanx. Such fevers are frequently engendered in jails, crowded with filth and animal steams, and excluded from free ventilation : also in military hospitals, crammed with sick, with dysenteries, putrid sores, and mortifications : also in ships and large fleets, when hastened out in the hurry and spur of approaching hostilities : also in wet and stormy weather at sea, when the hatches are closed.

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In cities, contagious fevers may be traced to prisons, perhaps sometimes to hospitals; certainly often to narrow courts and alleys, and small crowded apartments; to the houses of the indigent; to filth, rags, and squalid poverty, co-operating with foul unventilated air: and in the open perflated streets, are much less frequent. Cities, therefore, should be more infested with them than the country; and the poor more than the affluent. Children with adults are subject to them, but more of the latter. In London, perhaps, nine-tenths of the fevers, are of the remittent, nervous, and putrid type, and not of the simple inflammatory. But I exclude from this calculation the exanthematous order, and the topical inflammations. Some, not without argument, alledge, that slow nervous fevers are in general derived from the same origin; and that they differ from the putrid in degree only. Petechial spots are by no means constant symptoms of the putrid type; but when they occur, they point out the disease more unerringly, and its greater malignity. In many instances, their differences may be rationally imputed to climate, season,

season, constitution, miasma, and medical treatment.

I meet with inextricable embarrassment, in endeavouring to draw the exact limits, not only between nervous and putrid fevers, but also between them and what some authors have termed the universal remittent of this island; and which is not limited to any season of the year. I take this opportunity, therefore, to avow, that in what proportion these very general fevers with remissions originate from marshy effluvia, from climate, and constitutional indisposition, from animal contagion, or from other occult causes, I am unable to decide: Their precise relation as to lineage and consanguinity, is beyond my penetration. Nervous and putrid fevers have been described under the following different names: slow nervous fevers, febricula, maligna lenta insidiosa mitis, nervous and putrid fevers, putrid remittents, typhus castrensis, jail, hospital, infectious, putrid, malignant, continued, putrid, spotted, purple, petechial fevers; yellow fever of the West Indies, or typhus Icterodes.

Slow

Slow nervous fever frequently steals on with treacherous mildness; the sick are rendered unfit for business, but yet not confined to bed, and except to sagacious judges, the fever is not apparently alarming; and too often the sick and their friends are lulled into fatal security. The symptoms slight alternate chills and fugacious heats, especially in the evenings; heaviness, giddiness, and headach, particularly in the posterior and superior part, and the pain often descending down the spine; great debility and prostration of strength; and in both nervous and putrid, the functions of the brain, and of muscular motion, considerably weakened, and interrupted; also depression of spirits, sighing, restlessness, very little sleep and not refreshing; accelerated, weak, and small pulse; nausea, total inappetency; inconsiderable heat of the skin or thirst; dry tongue, a little yellow at the sides; pale urine, and without sediment; irregular sweats; sometimes pains resembling rheumatick. After a few days, the fever, stupor, delirium, and headach increase, with low muttering delirium, chiefly during the nocturnal exacerbation, and with noise in the ears, and universal debility of the cor-

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poreal and mental organs. The remissions are generally more distinct in the beginning, and, by degrees, more obscure.

Putrid fever sometimes creeps on with deceitful approach under the nervous cloak; and sometimes, with furious onset, counterfeits the inflammatory. The symptoms when radicated and inveterate are, unremitting headach, pain in the back and loins, and course of the spine; vertigo, throbbing of the temporal and carotid arteries, noise in the ears; delirium, extreme diminution of strength and despondency of mind, trembling of the hands and tongue when thrust out; anxiety, restlessness, or no refreshing sleep; intense burning heat of the skin, especially in the evenings; nausea, bitter taste in the mouth, vomiting of green or black bile: sometimes insatiable thirst; at other times the sick are insensible to thirst and heat, and only complain of universal languor and weariness; the tongue, teeth, and lips covered with a brown or black tenacious crust, with thrush and ulcers; the fecal excretion black, and fetid; the breath and perspiration offensive to the smell; the pulse

pulse progressively small, irregular, and quick, often 130 to 140 pulsations, even in adults, every minute; the eyes glazy, the vessels of the tunica albugina turgid with blood, and what is called blood-shot: in stages of still more virulency, petechial eruption sprinkled on the skin, with hemorrhages from the gums and nose, and hemorrhagick subcutaneous extravasations. In the yellow fever of the West Indies, there is a jaundice-colour of the eyes.

In the duration, crisis, and termination of nervous and putrid fevers, there is considerable diversity. Some may be suddenly stifled before they burst into a flame: some of inveterate malignity may prove fatal in a few days; others may terminate in all the intervals within three weeks, or even later. Some terminate auspiciously without any sensible crisis or evacuation: in others, there is more or less sensible defecation by some of the excretories, by perspiration and sweat; diarrhoea and fetid stools; turbid urine; exspuition and salivation; vomiting; tumor of the parotid glands; eruption about the mouth.

Miliary fever, *febris purpurata, rubra* and *alba*, is never epidemick, and is denied to be a primary disease; but is spurious, symptomatick, accessary, or fortuitous; it is very rare, and may be complicated with the nervous and putrid, and with small pox and measles. The *miliaris alba* is more frequent amongst the female sex, especially during the puerperal state, and in other females debilitated by *fluor albus*, and hemorrhages, of weak constitutions, delicate, prolifick. It sometimes exhibits previous symptoms of angina, pleurisy, catarrh, rheumatism, erysipelas. Its peculiar diagnostics are extreme languor, anxiety, despondency, terror, sighing, prostration of strength, headach, delirium, restlessness, quick weak pulse, oppression of the breast and stomach, dry cough without expectoration; sometimes profuse sweats towards the third day or later, and the sooner the worse; inextinguishable thirst; urine and stools various. In different stages of the fever, after a few days, a cutaneous efflorescence is perceivable, from which the disease takes its name, preceded by and accompanied with itching and pricking heat of the skin, and eruption of diminutive pustules,

pustules, the size of millet seed, and, by the fingers, may be felt prominent: they are rarely seen on the face; commonly on the neck, back, breast, and extremities; some of them change into small serous vesications, distinct or clustered, and emitting a peculiar sour odour: of these there is often a retrocession and new eruption, variously protracting the fever to a few days, or even weeks. It is distinguishable from measles by the pruriency and sour smell, and the absence of morbillous stertoration.

Inflammatory Fevers, synochus continua non putris of Boerhaave. To this we may add the febris diaria. A different genus of fever, both in its nature and cure, from the remittent, nervous, and putrid, is the simple inflammatory. The frequency and the fatality of this fever, is infinitely inferior to the preceding groups; and in comparison, is as a wasp to a tyger; or a babe to Hercules. The false lights hung out successively by multitudes of authors, and transmitted, in some degree, through the Boerhaavean school, to steer with the antiphlogistick compass and lancet in each hand, in

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the generality of fevers, have been the cause of numerous shipwrecks. Inflammatory fever is frequently complicated with some local inflammation, and then is distinguished under a different name, and hereafter described. Pringle observes, that in military camps, pleurifies, and peripneumonies are the most frequent form of fever with inflammation; and next to these acute rheumatisms.

The predominancy and reign of inflammatory fever in northern latitudes, is in winter and spring, in cold climates and rigorous seasons, and where cold and moisture are combined. It commonly attacks the robust, strong, athletick, and those in the vigour of life: it is not contagious; and neither its remission nor exacerbation are conspicuous. Its assault is sudden and violent, with severe headach, quick laborious respiration, interrupted sleep and restlessness, or sometimes somnolency; sometimes delirium; but in general the mental functions are not greatly disordered, nor the muscular debility so great as in the nervous and putrid fevers: pulse accelerated, strong,
full,

full, and tense; commotion and throbbing of the temporal and carotid arteries; intense heat of the skin, dryness of the mouth, fauces, tongue, and nose; ingurgitation of drink with avidity; the urine somewhat crimson in tincture, and in small quantity; the belly generally costive; the blood drawn, forming a buffy incrustation on the contracted coagulum, complete its portrait. The natural crisis is various by nasal hemorrhage, by sweats, turbid urine, diarrhoea; and the duration of the fever from four to eleven days. The Febris Diaria of a few days continuance, is a sort of minor or infant species, an appendix of the inflammatory: it begins suddenly with nausea, vomiting, shivering, cold, headach, lassitude, heat of the skin, flushed face, restlessness, or disturbed sleep, strong quick pulse: and is rarely dangerous.

With respect to all the preceding confederate genera of fevers, we shall make the following general observation. In the preceding century, during the last thirty years, febrile mortality, by the London bills, is rated at 87,645: and the mortality of the

present century is seen in the Chart. Formerly, in this metropolis and island, and probably throughout Europe, fevers seem to have been much more prevalent and fatal than at present: their essential nature and cure is now much better understood by physicians; and we are provided with far more powerful auxiliary remedies, and are more expert in their application. In this particular instance, modern medicine, especially of the century in which we live, is signalized, and may, without arrogance, claim triumphal honours. The supposed innumerable varieties of fevers, and from which perplexity Sydenham could not altogether extricate himself, is now disproved by repeated experience, and by the infallible efficacy of general remedies. It is, however, as yet impossible to fix any definite medium or average of mortality in the above genera of fevers, whether remittent, nervous, putrid, or inflammatory. We have modern authentick records, wherein, under judicious and skilful treatment, of 200 sick in remittent fevers only one died; and even in the nervous and putrid, the blanks were trifling compared to the prizes; where-

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as, under different and erroneous management, one half, and often the greatest part of the sick perished. The corroboration of these assertions may be seen in those learned authors, Lind, Millar, Robinson, Clarke, Lettsom, Sims, and others,

Throughout the intire morbid host of human foes, there is probably no such flagrant variation in the therapeutick barometer, or scale of mortality, as in that of the fevers hitherto described. Different curatory processes and remedies soon change the natural genus, symptoms, crisis, prognosticks, and event. No dangerous diseases almost whatsoever, are more successfully opugnable under discreet medical regimen; and when entrusted to nature, from the days of Hippocrates to the present time, they have ever been extremely fatal. Sorry I am to add, that, perhaps in many instances, the errors and fatality of nature, have been less destructive than those of artificial and therapeutick mismanagement. Since the discovery of antimonials and Peruvian bark, few now, under skilful medical pilots, die, compared to the multitudes of sick: but still

in the aggregate list of funerals, except perhaps pulmonary Consumptions, it may be doubted whether any other of the belligerent morbid foes commit such ravages amongst mankind.

Small Pox, natural and inoculated. We have no vestiges, neither in history nor tradition, of this loathsome disease, nor of the measles, before the irruption of Mahomet and his followers from the Arabian deserts, about 1,300 years ago; and from whom this extraneous contagion was first transplanted into Europe. It is little more than 200 years since the exportation of this exotic poison to the American continent, where it had never before been seen nor heard of. The havock by this scourge of the human race, amounts, in London, to nearly a decimation of the inhabitants; or to about one tenth, or one twelfth. It is equally or oftener much more fatal throughout the torrid and frigid zones; and in the adult age is more violent than in childhood. It attacks the same person but once in life: had this not been the case, the human race must long since have been extinct. On a promiscuous

miscuous average, one of every seven infected die of the natural disease; but under inoculation only 1 of 500. Besides, to the former deadly catalogue may be superadded a frightful train of mangled constitutions and countenances, of consumptions, abscesses, ulcers, ophthalmias, blindness.

In every large metropolis, small pox is an annual epidemick. In country towns and open districts, its invasions are more distant; at uncertain intervals of some years, when numbers contiguous are attacked at the same time. In our climate, it is alledged to be most prevalent in spring and autumn. Very few of the human species escape the small pox, especially in populous cities and towns, wherein there is always lasting variolous fuel, or lurking embers: a wooden horse with ferocious foes in ambuscade, tolerated within their walls, rioting in human slaughter, and infantile immolation. It might easily be demonstrated, that in London, and probably in all other large cities, variolous ravages are principally amongst children under five years of age. Without entering into any elaborate

argumentation, or proofs of this assertion, the reader may, in some degree, be convinced, by only turning his eye to the first Chart, and to a small table of London mortality during ten years; wherein he will observe the trifling annual mortality in the interval between 5 and 20 years; before which last period, a mere handful of the native progeny of the metropolis can be supposed to have escaped an infection with which they are constantly enveloped. It is obvious that the total annual mortality by all diseases, inclusively, in London during this adolescent period of life of 15 years, is not equal to variolous carnage singly. As to inoculation, or artificial engrafting of the contagion, it is throughout the greatest part of Europe a modern practice of the present century, and is yet in its cradle. Even in the London small pox hospital, since its first institution, forty years ago, there have not been inoculated altogether 25,000.

The cruel carnage perpetrated by small pox throughout the earth; the rooted prejudices, and the insinuations urged to shackle the universal benefits of inoculation, and
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which pervade not only the ignorant mafs of the community, but alfo the generality of the medical profefſion throughout Europe, would abundantly excuſe and urge me to be more diſcuſe on this intereſting and litigated to-
pick. But having, ſome years ago, pub-
liſhed a ſmall Eſſay on Inoculation, and
having now nearly finiſhed a general trea-
tiſe on the natural and inoculated ſmall pox,
I ſhall poſtponè the reſult of much reading
and reflection to that republication. An
acquieſcence in neutrality or indifference,
where it can be proved to mathematical de-
monſtration that myriads of lives might be
preſerved, which are now ſacrificed, would,
at leaſt in a moral ſenſe, conſtitute an ac-
ceſſary in criminality.

Small pox, or variolæ, have been properly
diſcriminated into ſeveral ſpecies : the diſ-
tinct and confluent, or benign and malign ;
the cryſtalline, lymphatick, warty, petechial,
and hemorrhagick ; the inoculated ; the ſpu-
rious. The principal differences between
ſmall pox conſiſt in the period of eruption,
the number and form of the puſtules, the
quantity and ſtate of the fluid contained in
them,

them, and the contumacious perseverance of the fever. The progress of variolous fever has been divided into four stages, that preceding the eruption; the eruption; the suppuration; and the exiccation of the pustules. The first visible effects of the contagion and fever are nausea, vomiting, soreness at the stomach, drowsiness: before the eruption infants are prone to startings, and some even to epileptic fits; adults to sweats. The second stage of eruption is, from three to four days, from the first attack, of small red spots or pimples on the skin, resembling flea-bites, in number and quantity extremely various; from one or more, multiplied to many hundreds. The eruption is commonly first on the face, spreading gradually over the body and extremities, and is completed about the fifth or sixth day from the febrile commencement: and on this eruption, the fever abates or subsides. In the third stage of maturation the pimples increase daily in size; are elevated into prominences inflamed at the base; and the suppuration is completed between the eighth and eleventh day from the first attack: the pustules then detached from each other, have risen into
small

small boils, the size of peas or larger, turgid with pus, gradually becoming opaque, yellowish, and tenacious. In the fourth stage the pustules shrivel or burst, oozing out part of their contents, and a superficial incrustation is formed, which, after some days, together with the shrivelled pustules, scales off, leaving the subjacent skin of a brown red colour. This is the mild form of the disease; but we are next to describe it under more dangerous and fatal forms.

In the Confluent small pox, the revolutions are the same, but the symptoms more exasperated; the vomiting and the eruptive fever violent, frequently with coma, or delirium. The eruption protrudes earlier; on the second or third day, in congregated clusters, like measles, and more numerous on the face; the fever does not then subside, but increases towards the fifth or sixth day, and continues throughout the disease. The swelling of the face is commonly earlier and more severe: and both in confluent and distinct, when the pustules are numerous on the face and fauces, there is foreness and inflammation of the throat, hoarseness, and difficulty of swallowing; and about the eighth

eighth day, the eye-lids are closed up with temporary blindness. On the face, especially, the pustules are small, less elevated, coalescent; and it is often covered with a universal flat vesicle: the fluid is whitish or brownish, not yellow and tenacious, or of due maturation and concocted purulency. The pustular interstices, if any, are pale and flaccid. The facial intumescence subsides about the tenth or eleventh day: and during these stages of fermentation and depuration, a salivation commonly ensues, especially in adults; and in infants a diarrhœa. About the fourth stage the fever, called secondary, is often renewed with considerable vehemence, and with various duration and event. In the latter stages the pustules excite intolerable itching of the skin, and, if not prevented, incessant scratching and cutaneous denudation: the breath, exhalations and excretions are then offensive to the smell. In the mild distinct, the pustules commonly begin to dry on the ninth day, and continue to the fourteenth in a process of exsiccation; but in the confluent, this stage begins about the eleventh day.

The following are all unfavourable omens in small pox: Sudden and premature eruption

tion of pustules. In this first stage, infants, especially before dentition, are sometimes snatched off in epileptick fits. The more small pox appear in the confluent, or in the distinct form, they are more or less perilous. It is only where the distinct are crowded with pustules on the face; or accompanied with fever and putrescency; or with pustules warty and lymphatick, that they are dangerous. Or, a natural mild small pox may be rendered malignant from confined air, heated room, and regimen. In the catalogue of unfavourable symptoms, are the fever continuing pertinacious; and with putrescency it is still more dangerous: the pustules not sufficiently filled and distended, hard, or warty, or not filled with matured pus; the top of the pustules depressed; pale interstices at their base; sudden retrocession or subsidence of the pustules during the stage of maturation: severe inflammation of the fauces; difficult deglutition; severe pain at the stomach. The secondary fever arising commonly about the recession and exsiccation of the pustules, or ebb of maturation, is the most dangerous period of small pox. The variolous crisis then is generally by diarrhœa,
or

or turbid urine, or both conjointly, or by salivation. It is evident that, as the cutaneous pores are blocked up, the absorbed, and other floating pus, must be defecated by some grosser excretory. Additional symptoms of alarm, especially in the confluent, are, if the suppurating stage of the fever continues severe, the salivation ceases, and the hands do not then swell. When the putrescency is virulent, the disease sometimes proves fatal in a few days; but in most cases on the eleventh, and sometimes not until the fourteenth or seventeenth. Fatal symptoms of putrescency are petechiæ, and bloody pustules; putrid urine and stools; tumid emphysematous abdomen.

Inoculated Small Pox. Between seven and nine days, some slight fever succeeded by an eruption of pustules; in general not numerous, and the patients are very seldom confined to bed, or indisposed. In ninety-nine cases out of an hundred, inoculation produces a distinct small pox, void of danger. After inoculation from the matured pustules of real small pox, and the usual symptoms of impregnation,

impregnation, mankind are ever after invulnerable by this contagion.

Chicken Pox. Bastard or spurious; and distinguished under the appellation of *petite verole volante*, *stein pox*, and *swain pox*. They are sometimes epidemick, but inoffensive; and have given rise to the supposition of a person's undergoing the natural small pox a second time. The eruption forms very quickly into pustules, of which the pus is not concocted, nor tenacious; and after three or four days, incrustations.

Measles. *Morbilli rubeola.* From 100 to 120th part of the community seem to be destroyed by measles. Morbillous mortality is to that of small pox in the ratio of one to ten or twelve; and consequently may be estimated at one of seventy-seven whom it attacks. Sydenham, long ago observed, that measles, if judiciously treated, are attended with very little danger; but he should at least have qualified the expression, by adding immediate and considerable danger; for both immediately, and in their future consequences, they are by no means so innocuous.

innocuous. Few escape this exotick contagion, especially in childhood and in cities. It attacks the same persons but once in life; and, with us, is said to be most epidemick in winter.

Morbillous symptoms are fever, impaired appetite, heaviness of the head and eyes, somnolency, catarrh, acrid defluxion from the fauces, nose, and eyes, with hoarseness, sneezing, and lachrymation; short dry cough, and some difficulty in respiration. Prior to the eruption, there is generally anxiety about the breast, palpitation of the heart, itching of the face, peevishness, and considerable fever. On the third or fourth day there is an eruption of small red spots first on the face, resembling the bites of ants or fleas, generally confluent and entangled, and broad on the trunk and extremities; but not elevated above the skin, nor rising into pustules, nor suppurating: the size and shape various and irregular. About the sixth day the eruption on the face begins to dry, and on the ninth, is totally obliterated with desquamation of the cuticle. With the eruption the fever frequently does not cease; and

and the cough and difficulty in respiration often continue beyond the eruptive limits and cuticular desquamation. The usual crisis is by scaling of the cuticle, turbid urine, or diarrhœa. Unfavourable symptoms are, too sudden or too tardy eruption; pale or yellow eruption; great debility; and above all, pulmonick inflammation. The last in the train of morbillous evils and consequences are, consumption, anasarca, ophthalmy. Sometimes, though rarely, measles have been seen in accompaniment with other eruptive fevers, as small pox, and gangrenous angina.

Scarlet Fever. Febris scarlatina, ignis facer, scarlatina anginosa. Its mortality in the London bills is added to the general febrile heap. This contagious epidemick is most frequent in the infant and adolescent age; it attacks families and schools about one time; and the same person but once in life; and is said to be most frequent in winter. It is generally accompanied with an anginous or ulcerous fore throat, but not putrid. That genus or species of scarlet fever which usually accompanies angina gan-

I grenosa,

grena, and is extremely dangerous, is hereafter described. The symptoms of simple scarlet are the usual febrile precursors; on the second, third, or fourth day, an eruption of broad irregular redness and spots; general or partial only over the face, trunk, and extremities, and not elevated above the surface: sometimes the face is overspread with a crimson colour. Concomitant symptoms are, difficulty of swallowing, and uneasiness in the throat, redness, tension, and floughs: commonly also nausea, sickness at the stomach, vomiting, vertigo, drowsiness, headache, difficulty of breathing, anxiety. After three or four days more; that is, between the sixth and ninth, the cutaneous eruption and redness disappears, with desquamation of the cuticle, and harassing prurieny. The usual crisis is by sweats, urine, fetid stools, and excretion of floughs. Sometimes, a few days after the cuticular desquamation, an anasarous swelling suddenly appears; and during the convalescent state, from exposure to cold air, or neglect of cutaneous and other expurgation, anasarca, hydrothorax or ascites have ensued.

There

There are two or three other febrile eruptions to which authors have appropriated distinct names, but by which very few of the human race are destroyed. These are *febris urticata*, *bullosa*, and *pemphigodes*. In general, they consist of red spots and serous vesicles on different parts of the skin, exciting heat and itching; the *urticata* resembling blisters from the burning of nettles. Some of these are mobile, receding and re-appearing, and prone to relapse. After a few days, however, or at the utmost a few weeks, they vanish: and are not contagious nor epidemick.

Plague. *Pestis.* This febrile demon cannot now be called one of the mortal epidemics of Europe, except in the south-east extremity, inhabited by the Turks. The two greatest pestilences on record, happened in the sixth and fourteenth centuries of our era; which, with more barbarous havock than that of Goths or Saracens, overwhelmed millions in three quarters of the globe in one indiscriminate massacre. In London, before the general conflagration in 1666, of one half nearly of the old city, the plague

was very frequent : but since that event, or at the most two or three years after, it has been exterminated and banished from us. That fortunate disaster which consumed a magazine of putrefaction ; together with widened streets, ventilation, cleanliness, and many other causes, have all contributed to the extinction of this exotick incendiary. For it is well known, that pestilential miasma has been preserved dormant many years in porous materials. From 1592 to 1665, the plague appears to have had annually more or less share in the mortality of the British metropolis ; and adding together the different periods of its duration, amounts to twenty-five years. In 1665, which is the most furious pestilence in the London annals, the deaths amounted to 100,000 ; but in the eight preceding years, to only 113. Registers, in other parts of Europe, prove, that this disease has committed direful carnage since our emancipation. At Marseilles they can enumerate twenty general plagues, which have successively laid waste that populous city. Many other European cities and towns, during the last and present century, and especially

cially those bordering on the Mediterranean, have, in a very short space of time, severely smarted by pestilence, and have been nearly depopulated.

At present, in all the Mediterranean ports they are, from fatal experience, scrupulously vigilant to guard, by a circumvallation of alarm posts, against the pestilential infection, and the clandestine entry of infected goods or merchandize. It rarely now gains admittance, by stealth into any of the European ports; (Constantinople excepted) or even if imported to our shores, the wise precautions and regulations, enacted by Quarantines, soon check its irruption and progress. This is a most interesting epoch and improvement in the police of modern states; for the original institution and rough draft of which, about 300 years ago, we are indebted to the Venetians. The political ordinances, however, enacted for the exclusion and suppression of pestilential contagion, were, until the present century, extremely erroneous and impolitick. Formerly, the plague in London, and in most other European cities, where it was permitted to so-

journal, was rendered infinitely more terriffick and destructive by injudicious legislative regulations; especially by the barbarous sacrifice, and absurd policy of sick and found immured together, with a forlorn motto on their doors, until all were dead or recovered. This was an effectual discouragement against an early alarm which, as in cases of fire, is of the utmost importance. It is evident, by the London bills, that a mere handful, at any time, died in the publick pest-house; consequently, every corner of the city was polluted with infection.

True plague is now chiefly chained down to Constantinople, and to Grand Cairo in Egypt, the two original, or at least one of the hotbeds and volcanos of pestilence; to several of the maritime towns of Asia and Africa situated on the Archipelago and Mediterranean; as Smyrna, Aleppo, Tripoli, Tunis, Algiers, &c. In many of these cities the pestilential miasma is hatched and accumulated into venomous malignity: it is in some nearly an annual, or triennial epidemick. At this day, plague almost solely wreaks its venom on the Mahometan nations, whose prejudices

dices and ignorance, rivetted by religious and predestinarian absurdities, give licence and activity to its imperious domination. From such implicit and enthusiastick submission to the tenets of the Alcoran, joined to gross stupidity in science and philosophy, the Mahometans are encouraged, defenceless and rash, to brave this most malignant and terrible of the febrile host.

Fortunately for mankind, the pestilential contagion spreads to a very small distance through the air, without some contact or adhesion to infected goods and porous materials; or by personal communication and intercourse of the sound with the diseased. The atmosphere is not tainted to any considerable distance. A neighbour barricading himself within his house, at a few yards distance from infection, may escape unhurt. If pestilential contagion could be so suddenly and widely scattered over a kingdom as epidemical influenza, the earth, in a few months, would be converted into an enormous church-yard. It is not like some other exotick poisons of the exanthematous order, after enduring which once, mankind are ren-

dered invulnerable: the plague, as well as putrid fever, may attack the same person repeatedly. What proportion die or recover, I cannot ascertain; and indeed the prophylactic or preventive, is infinitely the most important indication. Its invariable characteristic features are buboes, carbuncles, and petechiæ. The general progress of the symptoms are, great abasement of strength and of spirits, apprehension of death, dejected countenance, and wildness of the eyes; nausea, vomiting of bile; headach, giddiness, delirium; weak irregular pulse; petechiæ, hæmorrhages; fetid breath and excretions; buboes or boils in the inguinal, axillary, or jugular lymphatick glands; and appearing early, or in the progress of the disease; besides gangrenous carbuncles in different parts. According to the virulence of the contagion, and other co-operating causes, the disease may be fatal in a few hours, a few days, or in one, two, or three weeks. The poison arrested in the lymphatic glands and suppurating, is a favourable presage. Domestick animals, as quadrupeds and fowls, are liable to the infection, and to be changed into carrion.

Sweating

Sweating Sickness, *ephemera fudatoria et elodes*, cannot now be considered as an epidemick cause of mortality. Somewhat more than 300 years ago, this singular contagious and vagrant disease burst out, for the first time, in the army of Henry VII. in his return to England from an expedition against France; and in four hours sickness, numbers were exterminated: but by keeping warm in bed, under profuse sweats, the dangerous whirlpool generally was escaped. The same infection was imported into England at several subsequent intervals; but happily, its greatest devastation was always of short duration; and this morbid meteor has long since disappeared from our island, and from Europe. Its symptoms were continued profuse sweats, extreme debility, fainting, anxiety, restlessness, pain in the stomach, thirst, vertigo, quick irregular pulse. Sometimes it was fatal in one day; and, if the sick survived to the seventh, they generally recovered.

Of the predisposing and occasional *Causes* of fevers, intermittent and remittent, nervous and putrid, inflammatory, small-pox, measles, scarlet

scarlet, plague, sweating sickness. The principal causes of the preceding genera of fevers may conveniently be presented at one view, in abbreviation. We throw to one side all that specious romance and sapient pomposity, strutting in the tinsel robes of proximate causes, and merely attend to the predisponent and occasional. Because, after diving and climbing as assiduously as many of our fellow-labourers in search of those arcana, we experienced reiterated retrogradation; and, as in metaphysics, error supplanted by error. Neither do we attempt to pry into those latent predispositions in the human organization, which renders them susceptible to many various febrile impressions.

The predisposing and occasional causes of intermittent and remittent fevers are, cloudy winter and autumn: northern morasses: noxious miasma or emanation from morasses, from countries and soils low, damp, woody, uncultivated, especially in warm climates, weather, and seasons: atmosphere moist and hot: foggy atmosphere: unusual irregularity of the seasons and atmosphere:
unusual

unusual continuance of cold rainy weather : damp night - air, especially in warm unhealthy climates : excessive heats : burning zones and regions : sudden vicissitudes from heat to cold of the seasons and weather : unusually excessive and long continued heats : also damp weather, particularly when unusually warm for the season and climate : damp ground-floors and habitations : damp sheets and beds : sleeping in the open air, and on damp ground : sudden stoppage of perspiration : bile depraved, redundant : septick miasma introduced from without, or generated within the body : efforts of nature to disencumber its functions and organs of some clogs or impurities. Perhaps rather contributing as exciting causes are passions of mind, fatigue, hardships, long watching, hunger, thirst, intoxication, venery, interruption of the excretions, &c.

The predisposing and occasional causes of nervous and putrid fevers are, many or perhaps all of the preceding causes : noxious miasma or contagion, engendered from human effluvia in cities, jails, hospitals, dirty, small, crowded houses and apartments, especially

especially in unventilated alleys and lanes; accumulation of corporeal filth from want of cloathing, change of raiment, slothfulness; contagion concentrated in porous materials, furniture, raiment, and houses: cadaverous exhalations, effluvia from putrid carcases of animals, and from both animal and vegetable heaps in a state of fermentative putrefaction: damp rainy seasons: bad harvest, and putrid grain; putrid diet animal or farinaceous: improper medical treatment of remittent fevers; corrupted bile, or other secreted and excreted fluids, noxious in quantity or quality: profuse evacuation, immoderate venery, desponding passions of mind, intemperance in food or drink, stoppage of perspiration, &c. Of military fever the causes are, situation, hot regimen, and rooms, during fever or parturition, excessive evacuations, weak constitutions, debility, pressing passions, moist air, wet summer.

The predisposing and occasional causes of inflammatory fevers and diary are, cold climate and winter: cold winds: change of seasons: heat of the atmosphere: insolation: excessive labour, exercise, and fatigue: violent passions of mind: long watching:
cold

cold drink when the body is heated : intoxication with spirituous liquors : crude chyle : heating stimulating diet : disordered stomach, plethora : excess of coagulable lymph and its tenacity : menstrual, lacteal, hæmorrhoidal, arthritick : warm baths ; excruciating pain.

The predisposing and occasional causes of small pox, measles, scarlet fever, and sweating sickness, are unknown, both as to their source and nature : the two first are exotick leavens. Of plague : venomous effluvia in certain hot climates, from putrid animal exhalations and filth, such as the stagnant canals and reservoirs of putridity in the city of Grand Cairo : putrid emanations from swarms of dead locusts. Predisposing causes to pestilential infection are, long watching, hunger, poor diet, intemperance, excess of venery, fatigue, terror, fear, debility, low spirits, &c.

With respect to the great sources of fevers, noxious miasma from morasses, contagion from human effluvia, and animal bodies, and that from specifick unknown origin, I shall make a few observations. Of what elementary nature miasma and contagion

gion consist; the analysis of their minute atoms; whether animalculæ, or to us invisible emanations, I pretend not to decide. Of small pox, measles, scarlet fever, and sweating sickness, we are totally ignorant of their origin and essence. We, however, know to a certainty, and it is of infinitely more importance to the publick safety, that neither marshy miasma, nor those from human effluvia, spread to any considerable distance through the air. Even by the plague the atmosphere is tainted to a very inconsiderable distance; and mankind find an asylum and sanctuary within a few yards. Nor do marshy miasma emitted from the earth, mount or diffuse themselves to any considerable distance in the air: the inhabitants at the top of a hill have continued healthy, whilst those situated in a swamp at the bottom, have been infested with intermittents, and remittents. To what distance the contagion of small pox, measles, and scarlet fever extend through the air, I am ignorant: like the plague, the two former have been transplanted to distant regions, in animal bodies, or in polluted porous materials. Another important discovery of modern

modern times is, that by fire and smoke, the heat of a baker's oven, the most virulent contagion may be annihilated, when concentrated in apparel, spongy materials, ships, houses, &c.

Of Febrile Prognosticks. The event of all the preceding fevers (intermittent excepted) is terminated with precipitancy in a few days, or, at the utmost, a few weeks in recovery, in death, or in some other disease. The predictions in fevers, and indeed in all diseases, should be deduced from the comparative mortality at different ages; the comparative mortality by different fevers; the symptoms peculiar to each genus, whether ominous or propitious; and the general symptoms applicable to an entire group or class. These enrich medicine with a ruler, compass and quadrant: in them consist the tactick and the sublime of medical divination. We have already treated of the three former, and have now only to add the general febrile predictions.

It is foreign to my plan, to squander time or words, in eulogy or censure of those elaborate

rate treatises on the pulse and urine, and their presumed extensive application to the diagnostick and prognostick of diseases. Of strength and weakness, hardness and softness, fulness and inanition, slowness, celerity, velocity, saliency, intermission, irregularity, and a few other distinctions of the circulation and arterial pulsation, we are competent judges; and of the measurement of velocity to a still greater nicety with the stop-watch. But, with all due reverence to Galen and his copyists, down to De Bordeu, in discriminating the multitude and variety, if I may be permitted the expression, of complicated tones, combinations, divisions, subdivisions, chromatics and chords in the arterial vibrations, we confess the bluntness and incapacity of our tangible organs. We have still fewer scruples to disclaim that affected sagacity and alchymistical intuition, of forming auguries from the urine; from its innumerable shades, intermixtures, pellicles, precipitation, and sediment. This is, even in our time, one of the decoys in vaticination to inveigle the ignorant and credulous; the stale manœuvres and chiromancy of vagabond empiricism and imposture.

A few

A few words will finish our general remarks on the pulse. From physiology, we know that the whole mass of blood is circulated round the body from the heart, its lever and center, to the circumference, and back again, in the space of a few minutes. But in the velocity of the crimson torrent and arterial pulsation, prodigious variations ensue from age, sex, constitution, peculiar temperament, climate, season, food, drink, mental passions, exercise, rest, sleep, waking, health, different diseases, and different periods of the day. It is therefore, singly, a precarious sign ; and did time permit, there would be no difficulty in demonstrating the urine to be infinitely more fallible. From infancy to old age, the velocity of the blood decreases, and is one half slower : in the adult and middle age, between sixty and eighty pulsations every minute is the usual natural pace : the febrile pulse is marked at 96, and is sometimes spurred to 130 or 140 ; and in infants sometimes outstrips the divisions of time or accurate mensuration.

All fevers with dangerous symptoms may be termed malignant ; but in general, this

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term

term is appropriated to fevers, intermittent, remittent, nervous, putrid, exanthematous, and also to some of those complicated with topical inflammation. General prognosticks of danger are indicated by a concatenation of few or many of the following symptoms, which may, in some degree, be transposed to the intire febrile class; and to the phlogistick order, not yet surveyed: as the brain, lungs, abdominal viscera, and organs indispensable to life, much deranged: debility in the executive and legislative functions; or vital, natural, and animal: signs of putrefactions.

We shall enumerate the principal of those in detail. The pulse weak, quick, fluttering, salient, irregular, intermittent, its systole duplicated, its velocity 130 or 140; tendency to faint or fainting in an erect posture; cold extremities: the respiration slow, laborious, quick, cold; all the subsidiary muscles of respiration labouring to distend the thorax; deep interrupted sighs, hiccup; particular noise in respiration, as if mucus plugged up the throat and lungs: the stomach very weak, with nausea, sickness, vomiting, desire of acids; deglutition difficult, struggling

struggling, and with noise; involuntary excretion of feces and urine; thirst; the tongue, teeth, and lips foul, and furred with a black gelatinous incrustation; the urine pale, red, black, fetid; intense burning heat in the abdomen; the belly tumid and puffed; fetid cadaverous smell and exhalations; clammy sweats, especially in the breast: the blood if drawn not coagulating: cutaneous petechiæ, like small bruises in different parts; subcutaneous effusions; hemorrhages: weakness, confusion, irregularity in the intellectual functions; the manners different from natural; in the speech or actions something unusual; loquacity; no sleep; coma or delirium furious, or low and muttering; in the countenance and eyes perturbation, agitation, amazement, despondency, despair, anxiety; attempts to rise out of bed; throwing off the bed-cloaths, incessant tossing about the bed; forgetfulness, loss of memory, so as not to know the nearest friend; refusing or expuating food, drink, or medicines; moats floating before the eyes, and objects seen as through a cloud; total inattention to every object; twitching and spasms of the tendons at the wrist: catch-

ing and picking with the hands and fingers at the bed-cloaths, as if feeling for some object; starting of the muscles, convulsions; trembling of the hands and tongue when thrust out; supine posture; inability to support themselves erect or sitting; sliding down to the foot of the bed: livid nose; collapsed cheeks and temples; sunk and glazy eyes; dead, ghastly countenance, cold extremities.

It has been asserted by authors, that no certain febrile presages can be formed before the periodical crisis; but this is antiquated and erroneous. In tropical climates, the critical days are much more certain and evident than in northern regions: and as transmitted from the prognostical Alcoran of Hippocrates, are the 3d or 4th, 5, 7, 9, 11, 14, 17, 20; which amounts to rather more than one half critical, and the remainder non-critical. On such critical days the event is generally most decisive, whether salutary or fatal; in the non-critical it is a temporary respite. Besides, in tropical climates, the moon is observed to have considerable influence on febrile paroxysms, and crisis.

crisis. As to the effect of febrile crisis on the human excretories, we have been sufficiently explicit. The favourable termination of fevers is chiefly discovered by cessation of delirium, abatement of the frequency of the pulse; mild sweats equally diffused; the urine depositing a sediment freely and copiously; coolness of the skin; return of natural sleep and appetite; and food recruiting the lost strength. The storm is then subsided, and the ship arrived at anchor.

THE phlogistick group of febrile diseases are now to be reviewed. The majority of these in their immediate causes and mode of cure, intimately anastomose; and the principal differences in the symptoms are to be ascribed to the different organs and parts enraged by inflammation. These are not like the generality of the preceding fevers, in which most of the corporeal functions participate: here, in many cases, one single portion of the human organization is originally transfix'd with pain

and commotion; and doomed to bear the brunt of the hydraulick torrent and inundation. After mature consideration, we imagined it would occasion less confusion and burthen to the memory, to detach a few diseases from the phlogistick legion. Inflammation of the ears, eyes, intestines, kidneys, and bladder, are incorporated amongst the other diseases by which those various organs are liable to be invested. I am aware that this does not quadrate with the stiff etiquette of nosological parade: but, without digressing into a critical disquisition on this subject, I shall content myself with simply acknowledging that I am no convert to any of those modern pedagogues in morbid arrangement and nomenclature. With similar and intentional omission, I avoid the technical subtilities of parenchymatous and membranaceous inflammation.

Inflammation of the Brain. Phrenitis vera. As a primary disease, it is very rare in this kingdom. It is much more frequent in tropical and hot climates: and is the febrile calenture of those scorching regions. With us it is mostly symptomatick in different fevers;

fevers : and may either affect the brain and medullary substance, or its investing membranes : and in the former case the delirium is said to be mild. Morbid dissections have proved, that when inflammation was believed to be present, none could be discovered ; and in other cases, that the brain was inflamed, without expressing the usual symptoms. Of idiopathick phrenzy, the symptoms are, fever, excruciating and deep seated headach, restlessness, and want of sleep ; intolerance of light and noise, with acute sensibility and irritability ; red, prominent, ferocious eyes ; audacious, and flushed countenance ; contracted and languid pulse ; throbbing of the temporal arteries ; noise in the ears ; change in the voice ; impetuous delirium, and the patient, with difficulty, restrained in bed ; dry parched tongue, but sometimes no complaint of thirst ; costiveness ; limpid urine. It is extremely dangerous and precipitate, terminating in a few days in recovery, death, or some other disease ; and is rarely protracted beyond a week. The favourable crisis is various : by nasal hemorrhage, sweats, diarrhoea, turbid urine : but on any irregularity or intemperance, con-

valescents are prone to relapse. The predisposing and occasional *causes* are, warm climate; insolation, especially with the head uncovered; sudden suppression of the puerperal lochia; intoxication; violent passions of mind; ambition, anger, grief, profound contemplation, unremitting study; long deprivation of sleep; external injuries; erysipelas, or scald head prematurely repelled; violent exercise; symptomatick.

Angina: cynanche, quinsy; and distinguished into the inflammatory; and into the putrid, gangrenous, or malignant. The mortality by quinsy and sore throat, appears in the London bills inconsiderable; and without discrimination of the inflammatory and putrid. Inflammatory angina is a general and frequent affliction in both sexes, and especially in ours and some northern regions. Adults more than infants; and some individuals more than others, are obnoxious to it: its reign is in spring and autumn, on the change and vicissitudes of the seasons, or of heat and cold. In that very different species, the Gangrenous Angina, the ancient authors are nearly barren of

of information : some years this is epidemick and contagious in different parts of our island ; and is much more inimical to childhood and adolescence than to adults ; discharging its venom on schools, and the younger branches of families.

The principal differences in inflammatory angina are in the parts affected, and the degrees of inflammation ; which may be in one or in both sides ; and variously extended over the mucous membrane of the fauces, tonsils, velum, uvula, pharynx, and larynx. The usual symptoms are difficulty and pain in deglutition, and sometimes in respiration ; internal intumescence and redness of the fauces, stiffness of the neck, and the lower jaw moved with pain ; frequent and difficult excretion of viscid mucus and saliva, and clamminess of the mouth and throat ; impediment in the distinct articulation of words and speech ; noise and darting pain in the ears ; flushed face, prominent eyes ; quick, strong, and hard pulse ; anxiety, restlessness ; sometimes considerable contiguous tumor externally ; and in violent inflammation, necessity of an erect posture of the

the head, to prevent suffocation : the more the pharynx is affected, deglutition is proportionally interrupted ; and some cannot swallow food or liquids during several days. The crisis is in a few days, at the utmost in a week or two, by resolution, or by suppuration ; seldom or ever by gangrene. Resolution or discussion is accompanied with copious excretion and salivation ; and frequently with critical perspiration, sweats, urine. Suppuration may be artificially discharged, or may spontaneously burst internally or externally. With judicious and opportune assistance, there is trifling danger. When fatal, it is by suffocation. The predisposing and occasional *causes* are cold air inspired cold and moist air : perspiration suddenly checked, especially on the neck ; cold water drank when the body is heated : epidemical influence of the air and seasons.

Inflammation principally attached to the muscles of the os hyoides, glottis, larynx, and trachea, is fortunately far less frequent than the former. In this, the current of air being intercepted, there is necessarily difficulty and
 pain

pain in respiration, quick short breathing, sense of strangulation, great anxiety and restlessness; acute squeaking or ringing sound of the voice; quick and irregular pulse. Of that disease, which at least in symptoms has considerable analogy with the present, and called with us the Croup, we are hereafter to treat. We may here, however, with propriety, subjoin two other inflammations, the Angina Parotidea, and the Glossitis. The Angina Parotidea is often epidemick, but not dangerous. It commences as a glandular tumor externally, at the articulation of the lower jaw, becoming gradually more enlarged and unequally diffused, increasing to the fourth day, and from thence declining: and often is succeeded by swelling of the male testicles, or of the female breasts. The Glossitis is rarely a primary disease; but mostly complicated with angina, or venereal salivation. Its symptoms are obvious; pain and swelling of the tongue; speech and deglutition exercised with difficulty, headach, restlessness, flow of saliva. If violent in the extreme, there is danger of suffocation or starving.

The

The strong cardinal outlines in the features of Angina Gangrenosa are, symptoms of nervous and putrid fever, with ulcerations in the tonsils. Upon these we shall enlarge in their routine and detail: soreness or uneasiness in the fauces and throat; stiffness of the neck; headach, nausea, and vomiting; the fauces and tonsils inflamed, but seldom in any considerable degree, of a shining crimson colour, with ash-coloured spots on the tonsils, and sloughs, forming soon into corroding ulcers; some pain is felt in deglutition; there is sudden prostration of strength; depression of spirits; anxiety and oppression at the breast; small, quick, and fluttering pulse; dizziness in the head; slight delirium, especially at the nocturnal exacerbation; heavy, red, and watery eyes; the tongue foul at the root; in some the voice hoarse; and in most the nostrils excoriated by a sharp defluxion; the breath unusually fetid, and generally the fecal discharge: the external tumor of the fauces, when visible, which, so far as my experience reaches, was rarely the case, is edematous, indenting by pressure. In most cases there is a cutaneous efflorescence overspreading the face, neck, and other parts
of

of the body, in small points, scarcely eminent, or in confused and confluent blotches : the period of this eruption and of its duration varies ; and with its recedence there is desquamation of the cuticle.

This is infinitely more dangerous than the inflammatory angina, terminating salutary or fatal from the third to the seventh day, according to the degrees of virulence and medical aid. Alarming symptoms are, great debility ; cutaneous petechiæ ; the internal functions of the brain much deranged ; weak, quick, fluttering, and irregular pulse ; livid colour of the ulcers ; refusal of drink and medicine ; together with the other inauspicious symptoms enumerated under febrile prognosticks in general. I have seen not only petechiæ, but also putrescent hemorrhages from the nose and gums in this disease. At the crisis there are often fetid stools ; but whether critical, or from the acrid matter swallowed, may be disputed. General sweats and excreation of the ulcerous sloughs are favourable omens. By the speedy and judicious assistance of remedies and regimen, very few, compared to the sick and infected, sink. It is epidemick and contagious :

contagious : but of the source or nature of the contagion, we are unacquainted.

Inflammation of the Lungs and Organs of Respiration, is a frequent inflammation in northern climates ; and most so in spring, autumn, and winter ; when the body, hydraulick canals, and blood are in a state of inflammatory diathesis : it generally encounters the robust vigorous constitution, those of strong muscular fibre, and dense rich blood ; the athletick rustick, manufacturer, and artizan ; those in the prime, and in all the intervals between twenty and the decline of life : it is very rare in infancy, as in idiopathick disease, and seldom under puberty, or in old age. It is most universal amongst the male sex ; and in all probability, both more universal and destructive amongst the necessitous laborious mass of the community. We also read in authors, of spring pleurifies as no unusual affliction in some climates considerably nearer to the equator than ours. I apprehend, that in the London registers the mortality by pulmonick inflammation is under-rated, and perhaps delegated to imposthume and consumption.

Nosologists

Nosologists have enumerated several extraneous symptoms as complicated species of pleurisy and peripneumony; such as bilious, erysipelatous, catarrhal, rheumatick, intercostal, arthritick, verminous, flatulent, scorbutick, putrid, and malignant: most of which are merely symptomatick: for neither rheumatick pains in the intercostal muscles, nor flatulence pent up in the intestines, can impose on medical discernment as genuine pleurisy. The primary seat of pulmonick inflammation, whether in the parenchyma or internal viscus, or in its investing membranes, is not clearly established in medical diagnostics; and therefore we comprehend pleurisy and peripneumony under one genus: in most cases they are complicated; and it is now doubted whether any pure peripneumony occurs without the pleura also participating in the affliction. The inflammation confined to the pleura alone, was described as unaccompanied with expectoration; hence the distinction of dry and humid species; and in genuine pleurisy the pain was represented as more acute than in peripneumony.

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The symptoms of pulmonick inflammation are fever, darting pungent pain fixed like a dagger in some part of the chest, the side, breast, or back; and sometimes shooting to the scapula and clavicle: sometimes the pain is more dull and obtuse; and its situation oftenest in the side, about the middle of the ribs, between the sternum and spine; and commonly confined to one lobe. At the invasion there is shivering, restlessness, anxiety, succeeded by heat: hot accelerated laborious respiration; load and oppression at the breast; urgent, short, and painful cough; and very early in the disease more or less expectoration, streaked with blood; the pain is exasperated by inspiration and coughing, and mostly fixed, but sometimes veering or shifting: the pulse quick, full, hard, and tense, like a stretched chord; the blood drawn forms a buffy tenacious crust on the coagulum; the urine is of a florid colour: from the violence of pain, patients are often unable to lay on either side, but compelled to recline half-erect on their backs: when the inflammation is violent, or both pulmonick lobes assailed, there is inexpressible anxiety and struggle in respiration, florid countenance,

nance, prominent eyes ; with other symptoms of obstructed circulation, and return of blood from the head, and menacing suffocation. In the advanced or dangerous stage of the disease, the pulse is weak, soft, and irregular. Sometimes there is nausea of the stomach ; and sometimes delirium.

The termination of pulmonick inflammation is by resolution, by suppuration, by gangrene, by fatal effusion of blood, or exudation of coagulable lymph into the cellular texture. Favourable symptoms are, as in anginous excretion, facility in expectoration, without much exertion or coughing, copious, of due consistence, a little yellow, white, thick, slightly streaked with blood ; the sooner this is concocted and excreted, the sooner is the crisis ; less urgent and painful cough ; freer breathing ; abatement in the heat of the body and velocity of the pulse ; general perspiration ; deposition of sediment in the urine ; nasal hemorrhage ; dispersion of the pain, hitherto fixed in the thorax, about the shoulders, back, or arms ; erysipelas in some external part ; pustular eruption about the breast, neck, and scapulæ ;

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abscesses

abscesses in different parts. A crisis, when favourable, always ensues within seven, or at the utmost fourteen days; and after such crisis, expectoration may continue copious several days.

Inauspicious symptoms are, the respiration struggling and laborious in the extreme; dry pertinacious cough; no expectoration, or with difficulty; suppressed expectoration; obtuse pain, with difficult respiration; frequent violent cough exasperating the pain; the pain changing from one side into the other; the pulmonick lobes in both sides inflamed; the breathing intolerable and suffocating, except in an erect posture, and even then with laborious anxiety; the face turgid and florid, or pale, with features of consternation; violent headach; delirium; remission succeeded by relapse; excessive sweats; dry skin; weak, soft, and irregular pulse; sudden cessation of pain; grumous livid expectoration; rattling noise in the thorax, as if plugged up by phlegm; dejected countenance, squalid sunk eyes; great prostration of strength; cold clammy partial sweats; limpid urine; florid blood coughed up, or
white

white and glutinous matter resembling the branches of blood-veffels. Effufion of blood, and exudation of coagulable lymph into the pulmonary cellular texture, bronchial veficles and air-pipes, is more frequently than gangrene, the caufe of fuffocation and death. The occurrence of either is feldom later than fourteen days. There is alfo great danger of pulmonick inflammation, perfevering beyond seven or, at the utmoft, fourteen days, and without any confiderable remiffion or figns of refolution, terminating in fuppuration; of which the diagnofticks are hereafter marked. Authors have likewife defcribed a malignant peripneumony, which feems to be a complication of the preceding deleterious fymptoms, and of putrid fever.

There is, however, a fpecies of pulmonick affliction, the fpecifick diagnofticks of which it would be unpardonable to omit; becaufe it has often and fatally been either confounded with, and treated as genuine pulmonick inflammation, or flighted as a catarrh. This is named *Peripneumonia Notha*; whose fymptoms, at the onfet, are ambiguous. It is moft frequent in perfons old,

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phlegmatick,

phlegmatick, fat, weak, emaciated, subject to catarrh, addicted to fermented and spirituous liquors ; and in foggy weather and rainy winters. It appears in the same seasons with genuine pulmonick inflammation, and with catarrh ; that is, in spring and autumn ; and frequently under the veil of a violent catarrh. The fever and heat are inconsiderable ; the pulse not hard nor tense ; but there is straitness and difficulty of breathing, and load at the breast, with anxiety and gasping for breath ; urgent violent cough, with some expectoration, and sometimes exciting vomiting ; giddiness of the head ; rending headach ; sometimes drowsiness. It is sometimes suddenly and unexpectedly aggravated, and suffocates the patient.

The predisposing and occasional *causes* of pulmonick inflammation are, epidemick state of the air ; sudden vicissitudes of the seasons and weather from heat to cold ; sudden suppression of perspiration, or of pulmonary exhalation ; inspiration of cold air ; sudden exposure to keen cold air, especially after breathing in a warm room, or drinking warm liquors ; cold liquors drank when the body is heated ;

heated; intemperance and sottishness, particularly in spirituous liquors; dry cold winds; strong muscular exercise, or manual labour; repulsion of cutaneous eruption, febrile or chronic; exsiccation of old ulcers; suppression of habitual evacuation and eruption; translocation to and deposition of morbid matter on the lungs; consequence and dregs of small pox and measles; symptomatick from some other diseases.

Inflammations of the heart, mediastinum and diaphragm, as solitary, are very rare diseases. The symptoms of Carditis are severe fever; pain and anxiety in the region of the heart; difficulty of breathing; cough; irregular pulse; palpitation, syncope. Inflammation of the diaphragm, paraphrenitis: the symptoms are, acute fever, intense pain in the breast darting to the back, and increased by inspiration, coughing and sneezing, and by natural exertion at stool and urine; restlessness, anxiety, dry cough, quick convulsive breathing; sneezing, hiccup, nausea, vomiting; compulsive painful grin on the countenance, delirium. When it occurs, it is generally complicated with inflammation of the

adjacent organs, in either the thorax or the abdomen. As the heart is the main spring of the blood's circulation, and the diaphragm the principal agent in respiration, it is evident that inflammation in either must be extremely dangerous.

Inflammation of the Liver, hepatitis, acute and chronic. Both species are much more frequent in tropical climates and warm regions, than in northern and cold; and more so in the former during the hottest seasons of the year. The sensibility of the liver being dull, its inflammation is less painful than that of any other viscus. The symptoms are, fever, pain in the right side under the false ribs, and felt at the corresponding clavicle, scapula, and hand; sensation of heat and heaviness in the hepatic region; difficulty of breathing, more especially when the inflammation invests the superior convex part of the liver; there is often dry cough; nausea, bilious vomiting, and diarrhoea; the urine of a fiery or saffron-colour; and generally, but not always, the eyes, countenance, and skin more or less of a jaundice tinge; the pulse not remarkably disturbed; but
thirst.

thirst. Sometimes hepatick inflammation is entangled with that of some contiguous organs of the lungs or abdomen, and with their respective features. The acute hepatitis, but not the chronic, is usually terminated in a few days, at the utmost fourteen or twenty-one, by discussion, suppuration, or gangrene. Critical resolution may be variously accompanied with bilious diarrhœa and urine, nasal or hemorrhoidal hemorrhage, copious bilious sweats. Suppuration is not an unfrequent termination: after which many survive, but with difficult and slow recovery. The purulency may be expurgated by absorption, by the biliary ducts, by erosion of the abdominal muscles, or by an artificial opening when the abscess is perceptible externally; and sometimes it erodes the diaphragm and lungs.

The predisposing and occasional *causes* are, burning climates; acrid viscid bile; the blood tenacious and glutinous in consistence; calculi, steatome, worms in the biliary ducts; bilious vomiting; sudden refrigeration of the body when heated, and obstruc-

ted perspiration ; thirst, and not sufficient dilution of the blood ; intoxication and abuse of spirituous liquors ; poisons ; external injuries ; violent exercise ; passions of mind ; inveterate hypochondriasm ; translocation of purulent matter to the liver ; symptomatick.

Inflammation of the Spleen is a rare occurrence : schirrus of that organ is far more frequent. The Peritonitis is also an uncommon inflammatory vagrant : it will be revived hereafter under Puerperal Fever.

Inflammation of the stomach, gastritis. Notwithstanding the incessant irritation and distinction of this sensible organ, by innumerable varieties of food and drink, yet its inflammation is a rare event. The symptoms, acute fever ; fixed burning pain and heat in the region of the stomach, aggravated by pressure ; frequent nausea and vomiting after taking any nourishment ; anxiety, restlessness ; weak, hard, intermittent pulse ; frequently delirium ; universal debility. It may prove fatal in the space of a few days, or even of a few hours : there are different

different gradations of severity and danger. The termination is by resolution, suppuration, gangrene. The predisposing and occasional *causes* are, all the causes of topical inflammations in general; poisons swallowed; cold water, ices, and fruits swallowed when the body is much heated; repletion from food and gormandizing; crude and difficultly digested nutriment; violent agitation of body or mind; external injuries: from repelled gout very rarely.

The three succeeding genera of the phlogistick tribe, so far as respects mere inflammation only, affect the external parts and circumference of the body, and do not suppurate. In other respects there is a distinct tripartite separation, both as to general outlines and minuter shades.

Erysipelas, ignis sanct. antonii: gutta rofacea, zoster, zona, herpes. Some trifling pillage by this disease is noticed in the London bills. To adults it is most hostile. The symptoms are, more or less fever; superficial inflammation of some portion of the skin and cuticular membrane, with pain, tumefaction, burning

burning heat, redness, and pruriency, like that from nettles ; and variously, in different persons, assailing the face, the neck, the trunk, or one of the extremities : the eruption seldom appears until after the commencement of the febrile commotion ; and often from a small point spreads gradually : it never rises to any conical eminence, nor suppurates, but often excites vesications ; and if on the face and violent, blocks up the eyelids : the pulse is frequently full and hard ; and with the eruptive expulsion the fever and heat do not cease. It is sometimes critical and salutary : the favourable crisis is usually in a few days, or within nine, by perspiration, urine, and desquamation of the inflamed cuticle ; and sometimes without any perceptible revulsion to the excretories. Some have this cutaneous inflammation annually, or oftener, or at wider intervals ; and those once affected, are more obnoxious to its returns. Presages of danger are, violent inflammation and intumescence on the face, or sometimes even on the legs, particularly in old age, or unsound constitutions ; premature retrocession of the eruption ; pale colour ; frequent return, and repetition of the

the inflammation ; delirium ; coma ; gangrene. On the legs it sometimes leaves behind a chronic enlargement. The zoster and zona is a species of erysipelatous inflammation, a hand's breadth or more, affecting the breast, sides, or abdomen, and various in length.

The predisposing and occasional *causes* of Erysipelas are, epidemick influence of the air ; obstructed perspiration ; sudden refrigeration of the body when heated ; plethora ; suppressed evacuations, natural or artificial ; luxurious living and indolence ; intemperance ; spirituous liquors in excess ; poisons ; unsound constitutions ; contusions, wounds, burns, punctured nerves, blisters, acrids ; dregs of fevers ; scorbutick ; lunar influence ; passions of mind.

Rheumatism, acute and chronic. From the Chart of diseases we may rank rheumatism as an inferior piratical foe amongst the morbid host ; or rather as a scourge and instrument of torture than of execution. In the acute or chronic form, multitudes are molested by it, especially in this island, and in
northern

northern regions : and more so in winter, in spring, and autumn, and the interchanges of the seasons : it seldom molests very young or aged persons : adults are most annoyed by it ; the male more than the female sex ; the poor and indigent more than the affluent ; and those most who are exposed to the inclemency and vicissitudes of the seasons and weather : hence, during war, foldiers and sailors are much more afflicted with it than in peace.

In the acute rheumatism, fever may commence before or after the pain, which variously and alternately seems to dilacerate different parts, especially about the joints of the ancles, knees, hips, shoulders, elbows, and wrists, sometimes the trunk ; but rarely the small joints of the toes or fingers : and commonly succeeded by swelling and redness of the distracted joints, and with restlessness : at night the pains are exasperated, and often suddenly abating in one joint, seize upon another ; thus harassing the body with a war of posts. In its diagnostic train also are, hard quick pulse, fizy blood, inflammatory urine ; sweats sometimes copious, but not critical.

critical. Its continuance may be one, two, or three weeks ; by which time the fever, if not mismanaged, abates with the pains : it very rarely terminates in suppuration, and in this instance resembles erysipelas and gout. The crisis of the acute is generally by sweats, cuticular efflorescence, nasal hemorrhage. It may terminate inauspiciously in chronic pains, or in consumption : indeed, emaciation is always a consequence.

Chronic rheumatism may occupy all the stations of the acute : in the hips it is called ischias, morbus coxendicis, and sciatica : in the loins, lumbago. In this there is no fever, redness, nor swelling, only pain and often inability to move the affected joints ; and this aggravated by change of weather and cold. In the lumbago there is direful pain about the loins, with difficulty in erecting the trunk ; but not, as in the nephritis, accompanied with nausea or vomiting, nor pain of the ureters, testicles, or thighs. In the ischias there is severe fixed pain about the hips, os sacrum, and pubis, and often extending down the thigh and
leg

leg along the fascia aponeurotica ; with difficulty or incapacity of moving the thigh ; and sometimes atrophy of that extremity, or sciatic tabes. Chronic rheumatism may harass months, years, with various degrees of severity and exacerbation, and interludes of ease ; and is often extremely obstinate and difficult to be dislodged. In many instances also, we observe a contrariety and dilemma whether to affix the name of chronic rheumatism or gout to such pains. In general, rheumatic aches are not so periodical in their returns ; and in several other features the two diseases divaricate.

The predisposing and occasional *causes* of acute and chronic rheumatism, idiopathic and symptomatick, are, sudden suppression of perspiration ; sudden heats and colds ; cold damp night air, beds, houses, habitations, want of sufficient warm cloathing and fuel in rigorous seasons, or during the interchanges of the seasons ; wet cloaths ; exposure to heats and colds ; sudden vicissitudes of heat and cold ; change of winds and weather ; one part of the body exposed to cold whilst the other part is heated ; sleeping on damp ground ;

ground ; plethora ; impure blood ; repelled eruption ; suppressed evacuations ; habitual intoxication ; intermittent ; dregs of fever ; arthritic ; hereditary ; scorbutick ; hysterical ; venereal ; noxious exhalation from lead or mercury ; excess of venery ; tabes dorsalis ; aneurism of the descending aorta near the loins ; lifting great weights ; internal abscess and scirrhus ; abscess, and caries at the upper articulation of the thigh-bone ; sprains ; luxation and fracture of its neck ; diseases of the coverings of the nerves, or of their medullary substance, or of the muscular fibre.

Gout, arthritis, podagra ; acute, chronic, regular, and irregular. Here we have no foundation to accuse the elements, or the invisible demons of disease : this malady either immediately, or by hereditary descent, is too often the natural castigation and penance of voluptuousness and sensuality. In the preceding century it was confounded with sciatica in the London bills. During the present century, there is a considerable increase in arthritic mortality ; but, compared to some other of the morbid host, it is a mere buccanier. Arthritic piracy must
solely

solely be imputed to the assaults of chronic gout, either gradually breaking down the fabrick, or storming some of the internal organs essential to life. It attacks principally the male sex; sometimes, but rarely, females; and of the latter those of robust full habits, the viragines, luxurious, indolent, corpulent, and generally after the final menstrual cessation: the majority, from the peculiarity in the female constitution, and from superiority in temperance, are exempt. It seldom attacks before middle age; generally in the decline of life: the few exceptions of its earlier occurrence are rare; and in them it is usually by co-operation of hereditary, and of remote exciting causes: in adolescence, and before puberty, it would be numbered amongst the medical miracles. It harasses most those of robust, full, corpulent, large frame and temperament, the voracious, gormandizing, affluent, and pampered; more of the patrician than the plebeian orders; more of the literary and sedentary professions; and, according to Sydenham, those of an acute genius and intellectual eminence. The active and industrious orders of every community; those who are exercised in daily corporeal

corporeal labour, or who, from necessity, design, custom, or religion, do not indulge to excess in animal food, or in wine and fermented liquors, are seldom arthritick martyrs. Compared to the number afflicted, very few die of gout; it has even been by some considered as an omen of longevity: many, subject to it, have reached the Mosaick goal. It has been alledged, to render men more secure from other diseases; and in some few instances to expurgate and renovate a disordered constitution. These observations, however, must be restricted to regular gout only, and recurring at distant intervals.

That periodical local pain and inflammation called the regular arthritic paroxysm sometimes invades suddenly, without any warning; but in general there are presages of its approach, one or two days, or even weeks; by ceasing of usual moisture on the feet; coldness, numbness in the feet and legs, enlargement of their veins, muscular cramps; general torpor and languor; restlessness; headach; depression of spirits; impaired appetite; flatulence, indigestion, cardialgy; costiveness. But frequently one

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or two days preceding the paroxysm, the appetite is keener than usual. The regular and recent paroxysm commonly invades by nocturnal surprize in bed, with pain in one foot, usually the ball of the great toe, accompanied with shivering, heat, and shortly after, conspicuous glossy redness, tension, and spreading tumor. The pain becomes often so intense as to be compared to premeditated dislocation, or to a dog tearing the flesh and ligaments: and such is the exquisite tenderness in the inflamed part and foot, as not to be able to tolerate the slightest touch or even weight of the bed-cloaths. In this way there are more or less diurnal remissions and exacerbations of pain; which, after one, two, three, or four weeks, recedes gradually and insensibly, together with the redness and swelling; leaving the patient who had been chained to a bed or couch, in perfect health; and soon after, the foot in the exercise of its former suppleness and strength. Throughout the paroxysm the corporeal agony renders the mind more irritable and irascible: the urine is acrid, hot, turbid, and fabulous; in many, the perspiration is fetid; and with both general

ral and local sweats, and desquamation of the inflamed cuticle, the paroxysm finally evaporates. In vigorous constitutions the paroxysms are sooner terminated: indications of which are, sudden tumefaction, throbbing pain, and frightful sleep. In recent gout the pain is more severe than in chronic; the paroxysms shorter, with longer intervals; and *vice versa*. Pustular eruptions on the foot sometimes carry off the arthritic fuel.

At the beginning, the paroxysms are shorter, and the periods more regular and distant; at intervals of three or four years, or longer: by degrees the intervals are progressively reduced to two, to one; to two paroxysms annually about the equinoxes and solstices, and during the autumn, winter, and spring; at the same time the paroxysms are protracted to two or three months. At length, in the chronic inveterate stages of the disease the patient enjoys a very short respite; some few of the enervated, perhaps only two or three months during the summer: the pains in the extremities are then indeed less violent; but the stomach

is more disordered. In recent gout, one foot only is assaulted ; by degrees both feet, one after the other : and in the rooted state of the disease it not only torments both feet in succession, but capriciously deserts and re-attacks various parts ; the ankle, knee, elbow, wrist ; darting often with electrical velocity and shocks through the nerves and muscular fibres : thus, in a circle of torture and litigious warfare, teasing the arthritick victim.

When either the inflammation of the joints has commenced in the usual manner, but without an adequate degree of pain and inflammation, or at least without continuing the usual time, and precipitately recedes, some internal organ is exposed in its retreat and rebound. Or when the arthritick fuel is occluded, and not ejected to the feet, it will, according to the various parts and organs affected, excite corresponding vibrations and symptoms in the natural, vital, and animal functions ; as inappetency, indigestion, nausea, vomiting, flatulence, ventricular eructation, colick, diarrhœa, nephritis, and urinary obstructions ; difficult respiration,

respiration, asthma, palpitation, fainting, general debility, low spirits, hypochondriasm, cramps and spasms in the muscles, apoplexy, palsy. In dubious cases from what source to derive such irregular alarms and minatory explosion; if they happen about the usual arthritic periods, and in such temperaments, their origin may be suspected: and it is of the highest moment to know that they are rarely of an inflammatory nature. After the disease has continued many years with frequent reiterated paroxysms the joints do not soon recover, but continue weak and stiff. In many cases, chalky and calculous concretions are formed in the joints of the extremities, and in the kidneys and urinary passages. Racked by those combined tortures, the patient requires the auxiliary aid of stuffed chairs, flannel, and crutches.

The predisposing and occasional *causes* are hereditary; inactive sedentary life, with luxurious living and gormandizing, especially on animal food; intemperance in wine, spirituous or fermented liquors; early or intemperate libations to Bacchus and Ve-

nus; unremitting application to study or business; sedentary life; nocturnal lucubrations; disturbed sleep, cares, misfortunes, vexation, depressing passions; ceasing of usual exercise or labour; sudden transition from an active to a sedentary life; coaches, dissipation, luxury, effeminacy; sudden violent changes in diet; plethora; suppressed evacuations; profuse evacuations; various causes of debility; indigestion from quantity or quality of aliment.

Of internal suppuration in the lungs, liver, stomach, intestines, kidneys. Pulmonick suppuration, empyema, or vomica, may be predicted from preceding inflammation, without considerable remissions, the neglect of effectual remedies, and no signs of resolution by the efforts of nature or art, and by remission of acute pain; the difficulty of respiration and also cough continuing; with frequent horrors and shivering, heat and hectic, weight and throbbing in the side, laying on the diseased side painful; dyspnoea aggravated by a recumbent posture; disagreeable taste in the tongue; thirst; fetid breath; emaciation. It may burst in all
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the intervals between fourteen and sixty days, and either relieves or suffocates, or is gradually expectorated : and sometimes, after absorption, may be evacuated by diarrhoea or urine : the purulent contents may also be discharged upon the diaphragm, or between the pleura and intercostal muscles. Sometimes there are several small abscesses ; and too frequently the final termination is ulceration and phthisis. Suppuration in the Liver is a frequent consequence of previous inflammation, and is not altogether so fatal as some other internal abscesses. Its symptoms are those in common with internal formation of pus, horror and chilliness, hectic heat, thirst, weight and load in that region, jaundice-colour of the eyes. Sometimes the purulence erodes the external integuments ; sometimes the diaphragm, lungs, or stomach ; sometimes is discharged by the biliary ducts into the intestines, or absorbed and washed away with the urine. Suppuration in the stomach and intestines is rare. In the kidneys, the general symptoms, with purulent fetid urine : it may also burst externally ; or by slow ulceration and hectic, undermine the constitution.

Of *Internal Gangrene* in the lungs, stomach, intestines, kidneys, liver. Pulmonick gangrene from inflammation, is predicted by sudden cessation of pain, without any benign crisis: expectoration either suppressed, or yellow, green, black, and fetid; hollow noise in the breast during respiration; dejected countenance; red and heavy eyes; foul and black tongue; quick, languid, and intermittent pulse; fetid urine, stools, and sweat; hiccup; cold sweats; universal debility and sinking of the vital powers. From the preceding symptoms, from those enumerated under general febrile prognosticks, and from the functions peculiar to the different diseased organs, internal gangrene in whatsoever part may be comprehended; and a minute detail would be superfluous.

DISEASES of the Lungs and Organs of Respiration, what extensive ruin do they yet spread! In commenting upon these, I shall, in a trifling degree, invert the prescribed order

order and arrangement. Into this group are concentrated pulmonick hemorrhage, pulmonary phthisis, the various species of hectic, atrophy and tabes, nervous, sciatick, dorsal, and icterick ; also asthma, dyspnœa and cough, catarrh, hooping cough, croup. Inflammation of these organs and spurious peripneumony, have already been described. These, therefore, constitute nearly the whole combined pulmonick host, and likewise some of those diseases closely connected with the pneumonick machinery, or with several of its general morbid symptoms.

Behold here one of the great caravans of dead to the stygian ferry ; and tottering myriads crowding to the same shambles. View the innumerable multitude of sable mourners and weeping relations attending them in the last melancholy offices of friendship, to that eternal bourn, the grave ! Every introspection of general morbid registers, and the unanimous observations of the medical profession, concord in proclaiming the notoriety of the consumptive throng, and their ruinous uncontrollable domination. Notwithstanding the prodigious improvement in the alphabet,

subordinate

subordinate rudiments, and appendages of the medical science, consumption as yet is one of the great oligarchy of morbid and remorseless tyrants. He would be intitled to every terrestrial honour, and to posthumous apotheosis; he would rival and eclipse the most celebrated tyrannicides, and expurgators of monsters, whether demi-gods, heroes, or saints, who could dethrone or controul this stationary monopolizer of human sacrifices, and sheathe his deadly sword.

From one fifth to one sixth of all the mortality in London, is from consumption; which is nearly double to that even of small pox. But consumption is a term too lax and indefinite. Into this gulph, no doubt, are thrown many febrile and slow hectic emaciations, from infancy to old age, in both sexes; and there are few diseases from acute and chronic sources, especially in their fatal termination, without emaciation. Consumptions and dropies are the final wreck of a great variety of human maladies. In no two other diseases are, what pathologists term *Morbi a Morbis*, more apparent: and in multitudes of such cases, morbid dissections often detect

detect the effect, and not the original cause. How many of the genuine pulmonary phthisis are confociated with this miscellaneous crowd, is difficult to guess ; but, from the concurrent testimony of physicians, and of experience, we may safely affirm a very large proportion. There are few families in this kingdom whom it has not, one time or other, plunged into tears. Physicians on the continent alledge, that phthisis is more prevalent in Britain than in any other kingdom of Europe.

The next inquiry is, in what age, sex, rank of life, season of the year, and whether in city or country is consumption most predominant ? It has been, from the earliest chronology, the universal echo and monotony of medical writers, to mark the principal consumptive age between 18 and 35. But, with submission, I would considerably enlarge its limits, including from birth to 5, and from 20 to 60. No age or stage of life is exempted ; but we might “ *a priori*,” and from viewing the great and general scale of mortality, assert, that between 5 and 20, a considerable number cannot possibly be swept
away

away in the phthifical torrent. Nor do we mean to invalidate the general aphorism, that in the blossom and full maturity of vigour and comeliness, phthisis is superlatively deleterious. Between the sexes no distinction seems to be made. I conceive, however, that amongst the lower orders universally, and more especially those penned up in the foul atmosphere of cities, that phthisis is more fatal than amongst those who browse in the pure air of the country. In accommodation, cloathing, noxious trades, &c. the indigent have the disadvantage; and during sickness, from the same causes, their recovery is more desperate. With respect to seasons, winter and autumn in our climate is the most pernicious to pulmonick maladies.

Pulmonary Hemorrhage, hæmoptysis, sputum sanguinis. The lungs spongy pneumatick and hydraulick organs, in themselves passive; but by the contraction of the diaphragm and intercostal muscles enlarging the capacity of the thorax, this ventilator is alternately distended with atmospheric air, and this sonorous fluid again quickly expelled, with either some noxious emanation from the body, or decomposition

decomposition of its own vital principle. Half the blood of the human body circulates thro' this organ : its blood-vessels are numerous and large, and rise immediately from the heart ; and it is incessantly in motion and agitation. When the body has nearly attained its ultimate extension and altitude, pulmonary hemorrhage is most predominant ; more especially in those of narrow thorax, prominent scapulæ, red cheeks, and acute tone of voice. Before the hemorrhage, there are shivering, horror, heat, fever, weight, oppression, pain and heat in the breast, difficulty of breathing, titillation of the fauces, dry cough, expectoration of florid blood in various quantity, and slowly or suddenly, from ounces to many pounds, or even quarts, in a few days ; but the latter is rare. It may soon totally cease, or only intermit, and again return at irregular intervals. Relapses are frequent on any irregularity or intemperance ; on acceleration of the circulation, or expansion from heat.

This hemorrhage is very seldom in such quantities to prove precipitately fatal, unless mismanaged. From Bleeding, at least in the
London

London registers, there is petty spoliation. Pulmonary hemorrhage is more frequently the consumptive precursor. Malign omens are an eruptive torrent ; ulceration in the lungs ; fever renewed ; pain in the breast ; difficulty of breathing ; cough, hoarseness ; night sweats ; peripneumony ; visceral obstructions ; cachexy ; old age ; relapses. But pulmonary hemorrhage from temporary obstructions of the menses, or in pregnancy, or periodical, or without load in the thorax, or fever, are much less mischievous.

Pulmonary Phthisis. Not one hundredth part of pulmonary consumptions commence with hemorrhage. Phthifical lineaments are emaciation, diurnal hectic fever, obstinate rebellious cough, difficulty of breathing, and usually some change in the voice. In the beginning, phthisis often resembles a catarrh, or stubborn cold ; and in this insidious disguise is too frequently flighted, or neglected : but continuing longer than the usual catarrhal period, without any considerable intermission, and especially if in summer, are sufficient grounds of alarm. In that, from tubercles, there is frequent teasing dry cough, exasperated

ated at night ; some difficulty of breathing, and panting on ascending any eminence or stairs, or on exercise ; some emaciation and weakness. By degrees, there is more or less expectoration of viscid, yellow, greenish purulence, intermixed, however, with natural mucus, and in the progress streaked with blood. Sooner or later, uneasiness in the breast, inability to lay on one side, pain in the side, or under the sternum, and aggravated by inspiration and coughing.

The consuming hectic fever has generally two exacerbations during the twenty-four hours, about noon and night ; with some degree of chilliness and shivering, and increased sensibility to cool air, notwithstanding the skin is preternaturally hot ; the palms of the hands and soles of the feet burn ; a florid redness, or circumscribed spot is perceivable in the cheeks ; the other features are partial sweats about the neck and breast, particularly in the morning ; disturbed sleep ; slender, hoarse, and obscure voice ; quick pulse ; sometimes vomiting after meals ; thirst ; salt taste in the mouth ; cough and expectoration, in frequency and quantity, varying

varying in different persons ; in some, there is a very considerable discharge of purulency from the lungs. Various ordeals have been proposed for the distinction of mucus from pus, or pulmonick ulceration. Mucus is naturally more transparent, viscid, and cohesive : pus always opaque, more yellow and greenish ; the odour more disagreeable, and the expectoration accompanied with a hectic fever. The sinking or swimming in water of the expectorated matter, is a precarious symptom, as it depends on the quantity of entangled air.

In this island, phthisis, especially from tubercles not suppurated, may continue one, two, or more years ; appearing during the winter and spring, and disappearing during the summer. Other consumptions are much more rapid ; in the vernacular phrase, galloping the patient to a skeleton in a few months. Phthisical patients are rarely confined to bed, until near the deplorable stages and fatal termination. Some have even a tolerable appetite ; and the generality are cheered with adulatory hopes of recovery to the last extremity. The progressive encroachment

a very frequent and fatal disease of infants, especially in cities ; accompanied with emaciation, often short dry cough, hot skin and palms of the hands ; quick pulse, thirst, diurnal exacerbations, sickly countenance : in some the abdomen is tense, tumid, and considerably enlarged. In simple atrophy the fever is not so acute ; with tumid belly, irregular fecal discharge ; voraciousness, indigestion, thirst, nocturnal sweats, unhealthy countenance. Atrophy and nervous tabes are confounded in medical diagnosticks : in both there is emaciation ; but no considerable fever, cough, or difficulty of breathing ; impaired appetite and digestion ; leucophlegmatic sickly appearance, partial sweats ; general debility, and proneness to faint on any exertion. Sometimes atrophy is circumscribed to a particular part or member. The icterick tabes is accompanied with symptoms of jaundice ; and probably, under several disguises, is more frequent than medical authors have represented.

Dorsal, or spermatick, is a particular tabes ; miserable spectacles of which are recorded by the celebrated Tissot. Its symptoms are,

are, emaciation, yet good appetite; pain and weakness in the back and loins; disturbed sleep, and frequently interrupted by nocturnal dreams and pollution, either with or without pleasure; weakness of the knees and trembling of the muscles on the least exercise; sometimes a sensation as of thorns pricking the skin, and descending down the spine; pale sickly countenance, livid circle under the eye-lids; the feces and urine excreted with some difficulty, and often either with semen or prostatic liquor. By degrees, the appetite decays with indigestion, hypochondriacism, melancholy; pains in various parts, headach, lumbago, universal debility, wasting of the penis, impotency and blight of future progeny. Females are not exempt from this disease; but it is much more frequent amongst the male sex, from the age of puberty through various adult stages of life: the foundation of it is often laid at schools; and in those seminaries of vice, large cities: and in some countries it is a more general habit of licentiousness than in others.

Of the predisposing and occasional *causes* of pulmonary hemorrhage, pulmonary phthisis, hectic, atrophy and tabes. Of pulmonary hemorrhage; hereditary; narrow thorax; weak pulmonary blood vessels, small capacity; plethora; suppressed natural or habitual hemorrhage, as nasal, hemorrhoidal, menstrual; amputation of a considerable extremity; luxurious living and indolence; violent exertion and exercise of the lungs and voice in various trades and professions; also violent efforts to cough, to exonerate the excretories; parturition; lifting great weights; violent exercise; furious passions of mind: external injuries on the thorax; wounds; confining the thorax by writing-desks, by strong whalebone stays; suppressed perspiration and exhalation of the skin and lungs by cold; light atmosphere, especially on high mountains; pulmonick inflammation; scrophulous lymphatick glands and tubercles in the lungs, or calculous concretions; polypus concretions in the large pulmonary blood-vessels; schirrus and obstruction in the abdominal viscera.

The

The predisposing and occasional *causes* of pulmonary phthisis are all the preceding causes of pulmonick hemorrhage; hereditary; scrophulous tubercles; suppuration in the lungs, and not with laudable pus; calculi in the lungs; consequence of pulmonick inflammation and suppuration, of small pox, measles, hooping cough, rickets; and of various acute and chronic diseases; venereal, icterick; chlorosis; worms; rheumatism; chronic asthma; internal abscesses and ulcers; catarrh and neglected colds; sudden suppression of perspiration, especially when the body is heated; pulmonary exhalation suppressed, and cold damp air inspired; irregularity and coldness of the climate joined to moisture; various noxious trades and occupations; noxious fumes and effluvia inspired; foul atmosphere of cities, coal fires; broken ribs and blows on the thorax; indigence; cold habitations; want of sufficient cloathing and fuel in rigorous seasons.

The predisposing and occasional *causes* of hectic, atrophy and tabes, are many of the causes just now enumerated: scrophulous obstructed mesenterick glands, and course,

of the chyle ; colds ; damp habitations ; foul atmosphere of cities ; moist cloudy atmosphere ; unwholesome air ; coagulated milk in the stomach and intestines ; foul stomach ; diseased stomach and abdominal viscera ; improper diet ; gluttony, sloth, uncleanness, bad nursing, insufficient exercise ; worms ; repelled cutaneous eruptions and ulcers ; cachexy ; intoxication and intemperance ; depressing passions of mind, cares, and vexations ; intense study ; insufficient nutriment, poverty, and want of food ; frequent vomiting of food ; faults in the organs of digestion ; digestive fluids defective or depraved ; profuse evacuations, as hemorrhages, diarrhœa, diabetes, fluor albus, salivation, seminal emission ; delicate women suckling ; sweats ; rupture of the thoracick duct ; diseases of the spinal brain ; weakness of the solidum vivum ; general defect of fluids, or of oil in the cellular texture ; fever and absorption of the subcutaneous oil ; old age and contraction of the small vessels ; broken constitution, from various causes ; frequent masturbation ; libidinous books, prints ; consequence of venereal gleans, and improper treatment.

Asthma.

Asthma. In the London bills, Asthma and Tiffick are forced into a connubial link : formerly it was consumption and tiffick, the Italian name for consumption, and without any mention of asthma. It would appear by the London registers, that about one fortieth part of the *memento mori*'s in churchyards is from asthma ; and its proportion to consumptive mortality as 1 to 8. I have every reason to believe that the funeral catalogue in London is not, in any outrageous degree, preternaturally overcharged with consumption or asthma. As both these diseases are properly excluded from in-patients of our hospitals, I applied to one of the largest dispensaries in London, the Aldersgate ; in which there is necessarily an overflow of both these distempers ; and with the intention of confronting and irradiating the bills of mortality. Almost every page of these books presented Asthma in no inconsiderable number ; and above all, Phthisis, phthisis, phthisis, towering with gigantic bulk.

There is, unfortunately, in medical books such an exuberance of postulata, that I endeavoured to ascertain from facts and num-

bers, the sex and age in which asthma is most predominant ; and also its absolute mortality. For this purpose I extracted and winnowed out of all the patients in the Aldersgate Dispensary during seventeen years, from 1770 to 1788, all the cases of asthma and dyspnœa : the result is as follows. Out of 70,000 patients, asthma and dyspnœa were 3,192 ; or one twenty-third of all the diseases ; of which there were of males, 1613 ; females, 1536 : dead, 169 ; relieved, 575 : discharged, 569 : cured all the remainder, The sundry ages of these were,—From birth to 10 years, 36 ; from 10 to 20, 25 ; from 20 to 30, 161 ; from 30 to 40, 429 ; from 40 to 50, 882 ; from 50 to 60, 949 ; from 60 to 70, 596 ; from 70 to 80, and upwards, 114.

From the preceding valuable records, and which, in this instance, happen to chime with the gross of medical observations, we may draw the following inferences : That in infancy and adolescence there are very few cases of asthma and dyspnœa : that these diseases chiefly occur in middle age and the decline of life : that more than one half
of

of them are reported as cured; the relieved and discharged forming a neutral list, numbers of whom were either surfeited with medicines, or were discharged by their physicians when despairing of a radical cure, or fearful of their swelling the dead catalogue: in sinking of which there is a universal rivalry throughout our dispensaries and hospitals. Some of them, probably, were palliated, vamped, and amended; and indeed many were aged, for whom it would be unreasonable to expect a radical cure. I conceive, that with a part of them we may venture to double the dead list; which would raise asthmatick mortality to one of ten. But in the above estimate, what proportion legitimate periodic asthma bears to the other anhelations I could not fathom.

The term Asthma has been misapplied to every species of dyspnœa: it strictly denotes a chronic periodic difficulty of breathing, recurring and exasperated in paroxysms; and, at least in the intervals, without fever. Authors have subdivided it into several species; the spasmodic, convulsive, and periodical; the dry, humid, continued, flatulent: and
from

from the gradations of difficulty in respiration, dyspnœa, orthopnœa. The periodick and spasmodick is the true disease. Generally, the day preceding the paroxysm there is fulness of the stomach, impaired appetite, flatulence, eructation, tightness, and stricture about the breast, and difficulty of respiration; sometimes dry cough; the diaphragm descends with difficulty in inspiration: these are all increased by wine, fires, bed, and heat: the head is stupid, heavy, with slight pain, drowsiness, languor, yawning, restlessness of spirits; profuse excretion of colourless urine.

Asthmatic paroxysms commonly invade suddenly, or are greatly aggravated during the night, with constriction in the breast, anhelation and struggling in breathing, so that all the muscles of the thorax and shoulders are roused into action to enlarge the capacity of the lungs: this difficulty is greatest in inspiration: the patient is compelled to sit erect, or recumbent in bed, panting for breath; cool air, and drink; and can with extreme difficulty cough, expectorate, or speak: the respiration is slow, laborious, wheezing,

wheezing, and sonorous ; with painful propensity to cough : from the interrupted circulation of blood through the lungs, the face and eyes are turgid and livid, in some the face is pale and bloated ; with headach, somnolency ; palpitation of the heart ; weak and intermittent pulse ; internal burning heat, and often cold extremities ; eructation and flatulence, sometimes vomiting ; difficult and sonorous deglutition ; sweats ; limpid urine ; restlessness, or disturbed sleep. Some lay easier on one side than on the other. Many are under the necessity to sit erect in a chair during several days and nights, gasping for breath, not daring to repose in bed. Should both lobes of the lungs be equally constricted, the compound offices of this pneumatick and hydraulick organ will be obstructed, with more threatening symptoms of suffocation and strangling. A loaded stomach, close chambers, fires, beds, wine, noxious smells, all aggravate the paroxysm.

In the duration, recurrence, intermission, and remission, asthmatic paroxysms vary. A few hours, or a few days, are the usual limits

limits of this pulmonick tumult. In the beginning it continues only a few hours, with a diurnal remission and nocturnal renovation : in the chronic state, from two to five days is the usual duration. As the paroxysm mitigates, there is flatulent explosion upwards and downwards, often with fecal discharge, and expectoration of mucus. The intermissions are proportioned to the duration of the paroxysms : the longer the paroxysms the longer the intervals, and *vice versa* : with a copious expectoration they sooner terminate, and are less severe. Some have had as many paroxysms in winter as in summer ; and in the country as in town. Floyer had sixty in winter and twenty in summer : the latter, as usual, were more violent, and longer. During calm frosty weather asthmaticks are most secure ; but at all points of the compass the paroxysm may invade. Some find more ease in the city than country ; others, in low ground than mountainous. Some are never entirely liberated from dyspnœa, and with periodical aggravations. Few, comparatively, die immediately in the asthmatic paroxysm : numbers survive many years, even to the goal of longevity, and, emaciation excepted, without

without considerable diminution of strength, spirits, or appetite. After long continuance, it seldom admits of a radical cure ; but only alleviation and respite. Its fatal terminations are suffocation, apoplexy ; pulmonick inflammation ; consumption, cachexy, partial or general dropfy ; polypi in the heart and the large vessels.

The predisposing and occasional *causes* are hereditary ; original structure of the pneumonick organs ; narrow thorax ; plethora ; suppression of habitual or natural evacuations, and cutaneous eruptions, as menses, piles, old ulcers, sweat of the feet ; consequence of catarrh and colds, and sudden suppression of perspiration : serum, pituita in excess ; cachexy ; dregs of fever, small pox, measles, and pulmonick inflammation ; pulmonick tubercles ; spasmodic stricture of the diaphragm and bronchiæ ; smoky rooms and houses, especially with wood fires ; noxious mineral and metallic fumes, arsenical, nitrous, sulphureous, saturnine ; smoky atmosphere of cities ; pulverulent trades, as stone-cutters, lapidaries, millers, flax-dressers, chimney-sweepers ; fetid offensive smells ;
sudden

sudden changes of weather and winds from heavy to a light atmosphere, portending storms, and especially snow; easterly winds; fogs, with unsteadiness of weather and seasons; possibly some secret alterations in the electric fluid, and affecting electrometers; warm and moist air; errors and intemperance in food and drink, and ingurgitation; violent motion and agitation of body and of mind; symptomatick in various diseases, as hystericks, hypochondriasm, gout, pectoral dropfy, empyema, polypi in the heart or aorta; wounds of the lungs; diseases of the liver and spleen.

Dyspnœa and Coughs are symptoms of many diseases; and they are also primary, and very general maladies, especially in this island. It is true, we have here no compass to steer by: these are an exploded banditti; a sort of rebels to the symmetry of system, whose diagnosticks and therapeuticks are as yet slovenly and imperfectly noticed by medical authors. From the universal connection of the organs of respiration, their functions are more or less interrupted by and warped with other diseases and morbid symptoms. Many
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of the chronic impediments in breathing, and the broken-winded, may be called asthmatic excrescences, without its periodical paroxysms, exacerbations, and remissions; and without any rapid emaciation or hectic: they are spurious asthmas and chronic catarrhs. All the parts about the fauces and pharynx are crowded with mucous glands, from which, as in angina and cattarrh, there is often a profuse secretion. Many persons advanced in life, and the aged, have a large discharge of mucus, variously, from the fauces, pharynx, larynx, lungs, stomach; all requiring frequent expectoration or hawking. The predisposing and occasional *causes* are many of those already enumerated under consumption and asthma. To these may be superadded cold pituitous temperament; air hot, cold, weighty, light, moist, impure, stagnant; changes and vicissitudes of the winds; cold moist climate and atmosphere, and especially in winter, autumn, and spring, and interchanges of the seasons; sudden vicissitudes, disorders and inconstancy of the surrounding elements; suppressed perspiration, and pulmonary exhalation; catarrhal defluxion on the lungs, larynx, fauces; mucus
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in excess, tenacious ; faults in the mucus glands and ducts ; trachea too sensible or irritable ; calculi, chalky concretions, and inspissated mucus in the larynx ; vascular or parenchymatous diseases of the lungs ; original faults of the lungs, bronchiæ, larynx ; wasted lungs ; extravasated air ; spasm of the respiratory muscles ; flatulent farinaceous food, slimy food, and drink ; weak or foul stomach, voraciousness ; infants swallowing saliva ; symptomatick in various diseases of the thorax, as consumption, asthma, empyema, polypus, aneurism, *cum multis aliis* : symptomatick in various diseases of the abdomen interrupting the play of the diaphragm ; as full stomach, flatulence ; pregnancy ; dropfy ; enlarged spleen or liver ; tympany ; nephritis ; worms ; injured abdominal muscles.

Catarrh, colds, influenza, coryza, gravedo. In our irregular climate, during the annual revolution of the seasons, few escape slight catarrhs and colds, to which all ages are liable. That particular epidemick species of erratick catarrh, called Influenza, has sometimes spread suddenly over a kingdom,
and

and some the greatest part of Europe. In no other epidemick do so few die in proportion to the number infected. Its continuance is generally short; and the little depredations committed during its itinerant incursions, are principally upon declining, consumptive, asthmatick, those of diseased lungs, worn out constitutions, and aged. In such forlorn complaints, catarrhal influenza has hastened the final dissolution sooner than it would otherwise have happened. In some, from neglect or irregularity, it has excited consumption, or pulmonick inflammation: in others, recovering from fevers, and convalescents of various descriptions, it has occasioned relapses. These observations are also applicable to simple catarrh skirmishing in less formidable inroads. Frequent relapses, from imprudence, in persons of phthisical or asthmatic constitutions, may expedite the inflammation of latent tubercles; or in aged persons subject to pituitous coughs, spurious peripneumony.

Catarrhal symptoms are increased secretion of mucus, from the membrane of the nose, fauces, and bronchiæ, with slight fever. It

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generally

generally begins with some difficulty of breathing through the nose; dull pain and weight in the forehead; oppression in moving the eyes; distillation from the nose, sometimes from the eyes, of a thin fluid, often acrid, and exciting frequent sneezing; lassitude and languor of the body and spirits; sometimes shivering and heat, and increased sensibility to cold air; hoarseness, soreness of the trachea and fauces, with some difficulty of breathing, frequent cough and irritation at the glottis, at first dry; sometimes slight inflammation or angina, and pains resembling rheumatic about the neck and head. In some, the appetite is impaired, but not considerably; but in all the smell and taste. By degrees, the cough and sternutation are accompanied with a copious excretion of mucus, progressively incrassating, with less laborious efforts of coughing and hawking. Some catarrhs or colds, affect principally the membrane of the nose, and the different sinusses or cavities communicating with that emunctory; wherein stagnating mucus becomes more tenacious: others are lower situated in the fauces, pharynx, and trachea. Catarrh seldom
continues

continues beyond a few days, or weeks : that from contagion is more febrile and chronic. The predisposing and occasional *causes* are, cutaneous perspiration and pulmonary exhalation suddenly checked ; cold moist atmosphere ; sudden atmospheric changes ; cold habitations and beds ; wet feet ; head or breast exposed or naked, thin ragged cloathing ; excessive effeminacy and warm rooms ; epidemick state of the air.

Hooping Cough, chincough, tussis convulsiva, epidemick, and contagious : is generally prevalent in infancy and adolescence, and but once in life : adults are rarely afflicted with it ; and it is not confined to any particular season of the year. In the London registers, hooping cough and cough are confounded, and conjointly make no inconsiderable augmentation to the funerals. By the records of Dr. Armstrong in the dispensary of infant poor, of 732 cases of hooping cough, only 25 died ; that is, about $3\frac{1}{2}$ *per cent.* or 1 of 33. But this is too favourable a representation as a general scale of mortality. Its beginning resembles a slight catarrh continuing some days,

or one, two, and three weeks before the formation and maturity of the convulsive paroxysms. These consist of many successive expiratory motions, so as to exhaust the lungs of air, succeeded by a full inspiration and pulmonick gulp, which rushing thro' the glottis, makes a particular loud hooping sound. The duration of these pneumonick convulsive paroxysms, is from one to several minutes, in which the child's face is turgid with blood, tears trickle down the cheeks, and it seems almost in the agony of suffocation and strangling. At the termination of each paroxysm there is usually some mucus expectoration and excretion: this, at the beginning, is thin and not considerable; but by degrees increases in quantity and tenacity; and frequently at the same time, the contents of the stomach are evacuated. The pneumonick convulsions vary in their recurrence: they often return, frequently in the course of twenty-four hours, especially during the night: and thus may continue to persecute from one to three months, and sometimes a much longer space. Throughout, the senses are not injured; nor in the beginning the appetite; and in the intervals,

intervals, children return to their amusements as if nothing had happened.

The younger the child there is more danger ; as also in those born of phthifical or asthmatic parents, or in a state of debility, when seized with the hooping cough. When it begins in the form of catarrh, and is attended with fever, difficulty of breathing, and little expectoration, it may prove fatal in the early immature stages, unless the convulsive cough supervenes, and with copious expectoration. After some continuance of the disease, fever, with nocturnal exacerbation and difficult respiration, sometimes occur, and always with danger. Some fall down in the paroxysms ; others have convulsions : violent paroxysms of coughing have excited epilepsy, apoplexy, or suffocation ; but fever, dyspnœa, and pulmonary inflammation are to be most dreaded. With moderate expectoration the paroxysms are neither frequent nor violent : but expectoration in either extremes of scantiness or excess are both unpropitious, more especially with dyspnœa. Paroxysms terminated by vomiting, and succeeded by crav-

ing for food, are favourable omens ; and recovery may be predicted by longer intervals from coughing, and shorter paroxysms ; by restitution of natural appetite and respiration, of tranquil sleep, of fecal excretion, by evanescence of fever, and recruit of strength. The predisposing and occasional *causes* are, a certain epidemick state of the air or specifick contagion, the nature of which, and in truth of the disease beyond empirical observation, are as yet very imperfectly understood.

Croup, suffocatio stridula. This disease has been particularly discriminated by modern authors. It is principally inimical to children, seldom until after lactation ; and never after the age of twelve, or of puberty at the utmost : it may attack the same child more than once ; it is most frequent in winter and spring ; and is not contagious nor general amongst the community. It commonly invades like a catarrh ; and sometimes with its own permanent features, which are sudden paroxysms, as in spasmodic asthma, of laborious struggling respiration, and wheezing, as if the air-passage was straitened ;

ned; hoarseness, and shrill ringing sound, both in coughing and speaking, as if the voice came through a brass tube; cough, if any, dry, or with excretion of membranous fibres; thirst, quick pulse, anxiety, restlessness; and during the intervals, the senses and appetite are unimpaired: sometimes there is appearance, sometimes none, of inflammation in the fauces. It is always dangerous, infinitely more so than the preceding disease: death may suddenly ensue on the third, fourth, or fifth day, and perhaps when no such event was suspected: the impending hurricane may be prognosticated by laborious struggling in respiration, and symptoms of strangulation; with anxiety, restlessness, quick weak pulse.

The predisposing and occasional *causes* are yet the subject of litigation; whether inflammatory, or spasmodick, or a combination of both. On dissection, mucus accumulated has been found lining the larynx, by degrees incrustating, and interrupting the air from entering the lungs. We require some additional illumination on this subject.

A Miscellaneous cluster of diseases are now to be developed. In the majority of these, however, some few general features of affinity may be traced: such as their affecting, directly or collaterally, the head, the brain, or its numerous diverging chords, the nerves; or the inherent muscular energy. But in many other circumstances of cause, diagnostick, prognostick, and therapeutick, they are disunited. And in every possible arrangement such defects are irremediable.

Headach. No parts of the human organization are more prone to transitory interruption and disorder than the head and stomach: between the two there is a close connubial sympathy: to these two important centers many other maladies and remote perturbations converge, or reverberate their affliction. We here treat of headach as a primary disease; or at least as the principal symptom. From this calamity, in the extreme, the lives of many are rendered wretched. The London bills neither convey

convey an adequate representation of cephalgick fatality, and far less of its general contentious torture of the human species. Headach has been subdivided by authors into the idiopathick, symptomatick, general, local, internal, external, chronic, periodic, and temporary; into cephalea, cephalalgia, hemicrania, clavus, megrim. In the seat, duration, recurrence, and pain, there are many varieties and gradations. Trespassing on the throne of sensation, it is evident the corporeal and mental functions must lament the subjugation.

The predisposing and occasional *causes* are, hereditary; sanguineous plethora; suppression of habitual hemorrhages, as menstrual, hemorrhoidal, nasal; perspiration checked; cold feet; cutaneous pores blocked up, and not sufficient perspiration; stomach foul, disordered; food or drink disagreeing; gluttony; ebriety; unwholesome quality of fermented or distilled liquors from accident or design; costiveness; violent exercise of body or mind, voice and lungs; immoderate determination of blood to the head from causes corporeal or mental;

tal ; much stooping of the head ; disagreeable passions and anxiety of mind, exasperating or depressing ; study in excess ; state of the winds and weather ; of the points from whence winds blow ; the variations in the barometer and electrometer ; the muddiness and fogs of the atmosphere ; cold ; heat ; foul air ; crowded rooms, theatres, and other assemblages of mankind for amusement or business ; offensive smells and vapours ; fainting ; inanition ; excessive evacuations ; intermittent ; rheumatick ; arthritick, hysterical ; nervous ; scorbutic ; impure blood ; cachexy ; venereal ; lunar ; caries of the skull ; diseases in the diploe ; abscess, insects, or inflammation in the frontal, ethmoidal, or sphenoidal sinusses ; first branch of the fifth pair of nerves particularly affected ; carious teeth ; various diseases within the brain ; external injuries : symptomatick in fevers ; hydrocephalus ; and many other diseases besides those above enumerated.

Night Mare, incubus, ephialtis, pavor nocturnus. Oppressed breathing during sleep and sensation of load in the breast, and
of

of suffocation; terrifick dreams, fantasies, apparitions, visionary encounters, and dangers; by which the person is at length awaked in agitation, palpitation, and sweats. It attacks generally the dormant in a supine posture. Some infants and children, during sleep, are also disturbed with anxious groans, and exclamation. The predisposing and occasional *causes* are, plethora; heavy suppers; ventricular crudity, indigestion, gluttony, flatulence; worms; head laid low in bed; intense application of mind; and various passions: symptomatick in some fevers, in hystericks, hypochondriasm, hydrocephalus, hydrothorax, aneurism, and polypi; sometimes is a prelude of apoplexy, epilepsy, &c.

Apoplexy. Under this we shall aggroup several inferior species of vortex and stupor in the imperial seat of reason and motion; as lethargy, coma, carus, cataphora, vertigo. By apoplexy and suddenly, in the London registers, between one eightieth and ninetieth part of the community seem to be destroyed: and this mortality would be magnified by the addition of many who
are

are reported as found dead. In the last 30 years of the preceding century, apoplexy and suddenly stands at 3010 : Lethargy at 488 : and megrims now omitted at 45. This thunderbolt of death, or in the phrase of one of the British poets, "that knocketh man down as butcher felleth ox," is principally hostile to those advanced in years, and the aged ; to those more especially of large heads and short necks, of corpulent habits, indolent life ; to the full feeders, or the addicted to frequent intoxication. Medical observations also represent it as affecting more of the male than the female sex ; as more predominant in winter and spring, especially on vernal heat succeeding winter cold ; or moist rainy weather supplanting cold, and *vice versa*. It is also said to be more general and fatal in the city than the country.

Apoplexy may attack suddenly ; in other cases it is preceded days, weeks, or even months before the shock by vertigo, obscure vision, noise in the ears, dullness of memory, faltering in the tongue, difficulty of articulation ; in some the mouth is distorted,

torted, with transient torpidness or tremor of different muscular parts, headach, drowsiness, night mare, nasal hemorrhage, flushing of the cheeks, lachrymation, decay of strength, alteration of countenance and voice. In the paroxysm the patient, instantaneously stunned, falls down, with suspension of the functions of the external and internal senses, of voluntary motion, and of voice and speech; and with muscular relaxation; at the same time the pulse and respiration remain nearly in the natural state, excepting that there is generally a stertor in breathing, resembling a profound sleep from gross intoxication; and also, as in most soporous diseases, the circulation slow. These unmolested functions of the heart and lungs distinguish it from syncope. In the duration and severity of the symptoms, there are different gradations. Some lay in this lethargic state insensible to every object and impression: some when spoke to, only groan or make dumb signs: some, after a short time, are able to articulate: in some, there is froth at the mouth: the colour of the face is various, sometimes flushed, sometimes however pale; and the signs in authors between

tween the sanguine and ferous apoplexy are extremely ambiguous.

It often proves fatal at the first stroke; few can survive many attacks. Death, recovery, or transition into palsy, are generally decided within seven days. In magnitude of danger, perhaps no other disease can contend with this formidable antagonist: but I shall leave it to others to graduate the apoplectic scale. Some recover; in others it ends in death or hemiplegy, which is but a sad alternative and capitulation for life: and too frequently is accompanied with some lesion of the mental functions. Even of those who recover, they are in danger of relapses from intemperance, and errors in the non-naturals. The violence and contumacy of the symptoms indicate the degrees of peril: the less the functions of internal and external sense, and of voluntary motion are injured, our hopes are more flattering; whereas total insensibility, froth at the mouth, cold sweats on the breast and face, cold breath, involuntary excretion of feces and urine, are harbingers of impendent wreck in the apoplectic whirlpool.

Of

Of lethargy, coma, carus, cataphora. These denote different degrees of profound deep sleep without delirium. Authors have often confounded them with the febrile class, especially the “*lusus naturæ*” of remittents. To this irresistible torpor and drowsiness, even at meals or in conversation, many corpulent and fat persons are subject. We also read in authors of some extraordinary instances of profound long protracted sleep, from which it was impossible effectually to rouse the person. The vertigo has also been distinguished into simplex, scotomia, caduca. In this disease all objects, although at rest, seem to whirl round ; sometimes with headach, flushing of the face, noise in the ears ; and if not supported, the patient often falls down. It is commonly fugacious, and momentary ; seldom above a minute ; and in some diseases is symptomatick. The prognostick may be deduced from that of apoplexy.

Of the predisposing and occasional *causes* of apoplexy, lethargy, coma, carus, cataphora, and vertigo : hereditary ; short neck ; plethora, general or partial, sanguine or ferrous,

rous, especially sanguineous plethora in the vessels of the brain; tight neckcloaths; pressure on the descending aorta, cava; ferous or sanguineous exudations or extravasations in the brain; compression of the medullary substance, or of the origin of the nerves; suppression of habitual evacuations or hemorrhages, nasal or hemorrhoidal; habitual venesection neglected; old ulcers dried up; full and long continued inspiration loading the vessels of the head; blood forced on the brain by violent efforts of coughing, vomiting, fecal expulsion, exercise, venery, stooping the head; salivation suddenly suppressed by cold; foul stomach, gluttony, surfeits, luxurious living, and sedentary life; fatness, corpulency; intoxication, sottish potations; violent passions of mind irascible or stimulating, and also depressing, as anger, ambition, chronic melancholy and cares; intense meditation and study; intemperate lust in old age; noxious vapour from liquors in fermentation, from charcoal, quicklime, and new-plastered walls; particular effluvia and odours concentrated in large quantity; crowded rooms filled with animal steams from the lungs; thunder; sometimes

sometimes epidemick state of the air and elements, or perhaps celestial influences not yet explained ; intense cold ; warm baths ; blood rarified and expanded ; insolation ; some narcotick poisons, as opium, hyoscyamus, cicuta, laurus, belladonna, and some fungi : obstructed circulation through the lungs and heart, from asthma, polypi, ossifications of the large blood vessels or valves, and particularly of the right ventricle ; external injuries of the head ; concussion, fractures. The most frequent cause is, accumulation and congestion of blood in the brain : but sometimes, on dissection, no disease is discernible ; and effusions in the brain do not always inflict apoplexy.

Of vertigo, the causes are several of those just enumerated : the principal, plethora, suppressed hemorrhages ; suppressed perspiration ; luxurious diet, gluttony, somnolency ; foul or disordered stomach ; costiveness ; intoxication ; narcotick and tobacco fumes ; unremitting attention of mind to study or business ; restlessness, mental distress ; hunger, inanition, debility ; obstructions and diseases in the retina or optick nerves.

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Palsy.

Palsy. Paralysis, hemiplegia, paraplegia. During the last thirty years of the preceding century, paralytick mortality is only 630 in the London bills; but in the present century is doubled and trebled; and some part of this surge can be readily accounted for by the multiplication of the mechanical arts, in which lead and quicksilver are employed. At present, its mortality seems to stand in the proportion of one third or fourth to that of apoplexy. Of 310 patients afflicted with palsy and hemiplegia, and admitted in the course of 10 years into the Bath hospital, 57 were cured; that is, 7 *per cent.* or 1 of 15; there died 15, or 5 *per cent.*; and the remainder were found incurable and discharged, or received some trifling relief; and several of these might be added to the dead list. I doubt whether by the artillery of the shops we are so successful against this crippling foe. A considerable number of the community are rendered helpless and decrepit from this disease; to which some trades, more than others, are obnoxious; and adults and aged infinitely more than the young and adolescent.

Palsy

Palsy and apoplexy often alternate, and may then be termed one bicipitous disease. Severe apoplectick strokes, if not immediately fatal, frequently remit, and pass into palsy: or the catastrophe may originate in hemiplegy, which is the most frequent form of palsy; and when fatal, it is through the apoplectick explosion. In palsy there is more or less diminution or privation of muscular motion and feeling, without pain or fever, or injury of appetite. This may affect the muscles of voluntary and of involuntary motion; the whole, or only a portion of each: as muscular impotency of one side, or half of the body; of one or both of the lower or upper extremities; of some smaller portion of the face, eyelids, tongue, œsophagus, stomach, intestines, the sphincters of the bladder and anus, the penis, bladder, kidneys, heart. Under this deplorable calamity many linger years; some confined like a shellfish, and motionless; others crawling upon crutches. Tremor may be ranked as an inferior vassal of palsy.

The predisposing and occasional *causes* of palsy are most of those of apoplexy; va-

rious diseases of the cerebrum, cerebellum, and medulla oblongata; diseases of the inherent muscular power; vapours from lead, mercury, arsenick; colica saturnina; compression of nerves; abscesses in the lumbar vertebræ; falls, external injuries, blows on the head or loins, luxations or sprains of the lumbar vertebræ; spinal dropfy; fractures; venery. Of Tremor many of the causes of apoplexy and palsy; hereditary; old age and decay of the inherent nervous and muscular energy; compression or obstruction of the nerves; poisons; opium; employments in lead and mercury; ebriety; suppressed evacuations; sanguine plethora; repelled cutaneous eruptions; lurking gout; general debility; external injuries; warm fluids; strong tea; excess of venery; long watching; anxiety; passions of mind; sedentary life; excessive evacuations.

Epilepsy. Morbus facer, demoniacus, caducus, falling-sickness. In the last thirty years of the preceding century, thirty-five deaths only are marked in the London bills to epilepsy; and in the first forty-five years of the present century, they dwindle to thirteen:

teen: at present the title and disease is omitted. Medical men know, that no inconsiderable number of the community are tormented with this frightful convulsion, which the ancient Jews could only ascribe to the malicious rancour of an infernal devil. In this instance also, professional experience and erudition must interfere and correct the omissions of the publick registers. We are certain, that epilepsy is much more destructive to the springs of life: perhaps it is cast by the reporters into either the apoplectick or convulsive abyss. It is alledged to be more frequent amongst the male than female sex; and in infancy, in those of delicate constitutions, lax habit, acute, nervous and muscular irritability. *Vid.* Convulsions,

In many cases there is no previous monitory of the impending paroxysms; in some other cases the lowering storm is portended by lassitude, headach, giddiness, dimness of sight, broken sleep, frightful dreams, restlessness, terror, noise in the ears, palpitation of the heart, unusual smells, murmuring of the intestines, yawning, luminous flashes before the eyes, profuse urinary excretion, sense

of the disease ascending from a particular part to the head. By the epileptic whirlwind the patient is suddenly and precipitously thrown down, with suspension of the internal and external senses, and universal convulsions of the external muscles, or those of voluntary motion: the muscles of the head, face, eyes, and mouth, are particularly agitated; the head is tossed in every direction, the teeth grind against each other, the eyes roll, the mouth emits froth and flaver; the tongue, thrust out of the mouth, is often wounded and lacerated by the teeth; the respiration is as if through a noose on the neck; the fingers are clinched into the hand; there is perpetual involuntary deglutition, palpitation of the heart, and sometimes involuntary excretion of urine, semen, or feces; the motions of the heart and of respiration are hurried, but not otherwise interrupted nor injured. Such is the powerful coercive muscular contractions and convulsions, that several strong assistants are requisite to secure each member. Some, at the first struggle and uproar, emit hideous groans or yells, resembling the bellowings of a wild beast; others, a more still and savage murmur.

mur. In most, the aspect is horrible : nor does any other disease exhibit such truculent spectacles of terror and abhorrence.

After some few minutes, very rarely hours, a pacification ensues, and abdication of the epileptic demon ; and the patient liberated, rises up of his own accord, languid, dejected, and ashamed, with but few traces on the memory of the preceding tragedy ; and nearly in the exercise of all his usual faculties ; which is not the case in apoplexy. In the severity and duration, but still more in the repetition of the paroxysms, there is prodigious variation : in some they are errattick and irregular ; in others, they are periodical ; and at various intervals in diurnal paroxysms, synchronous with the tides ; monthly with the lunar revolutions ; equinoctial ; annual. It is often a chronic disease, and then much less inimical to life than might be expected from such a universal commotion. But in infancy, epilepsy and convulsions are the most atrocious of the morbid murderers. Sometimes it ceases after puberty. In old persons, or where there is no previous warning of the approaching paroxysms, the prospects are deplorable : reiterated epileptic bom-

bardment often makes breaches in the internal recesses of the senses; hence insanity, apoplexy, palsy, idiotism. Authors have attempted the diagnosticks of epileptic origin: thus, in the brain, or its spinal elongation, it is represented as invading with stupidity, or hebetude of the internal and external senses; headach, disturbed sleep, pale face; with suddenness in the assault, without previous warning, and a sort of sensation of distillation from the head to the breast and stomach: from nervous sympathy of the stomach and intestines, and of the extremities, it is preceded by disturbance of those parts at the approaching paroxysm; by an aura epileptica, and ascending vapour, or extraordinary sensation originating from some fixed point. To conclude, this convulsion is sometimes feigned by begging impostors.

The predisposing and occasional *causes* are, hereditary, peculiar original organization, especially of the brain and its appendages: plethora, fright, terror, horror, anxiety and passions of mind, excess of venery, study; passionate drunken nurses; foul stomach; acidity, acrid bile; worms, dentition, scald head,

head, or ulcers rashly dried up or repelled ; external injuries of the head ; various diseases within the brain, or in the nervous chords ; ebriety ; difficult parturition ; hystericks ; cachexy, dregs of intermittent fevers ; irritability and sensibility in morbid extreme ; nervous sympathy and motory vibrations ; force of habit ; offensive odours ; poisons, narcoticks. In those of epileptic temperament and predisposition, paroxysms are liable to be recalled by heat, ventricular crudity, intoxication, anxiety and passions of mind, terror, prospect of precipices, &c.

Tetanus, emprosthotonus, opisthotonus, locked jaw, trismus. This is not a frequent disease in this island, nor in Europe : it is far more universal and fatal in the tropical regions, and in the warmest seasons of those zones. In such climates tetanus, and all the train of spasmodick and convulsive diseases rage with more inveterate rancour and devastation : there the slightest wound or scratch will frequently occasion a locked jaw. It afflicts more adults than youth ; and, as is reported, more males than females. The emprosthotonus, or head bent forward on the breast,

breast, is much less frequent than the reverse. Its assault is sometimes sudden and violent ; but generally by slow approaches ; and with stiffness of the muscles of the back, neck, and occiput ; difficulty in rotating the head ; sense of uneasiness about the root of the tongue ; difficulty of swallowing, painful spasm at the lower part of the sternum darting to the back ; spasm and rigidity of the muscles of the neck and occiput pulling the head backwards ; and also of the muscles of the lower jaw, locking the teeth together, so that by the utmost force they cannot be separated : the muscles also of the face, eyes, and nose, are often violently distorted with a hideous grin. By degrees, this spasmodic conspiracy becomes more universal, communicating to the spine, abdomen, and extremities ; and the contracted abdominal muscles feel as a hard board. In the spasms there are repeated exacerbations, with excruciating pain ; followed by remissions or transitory reprieves ; but the latter seldom an hour in duration : and sometimes with these paroxysms, internal murmuring of the voice.

Seldom

Seldom any fever accompanies this spasm, unless from cold; and in this case the disease commences a few days after such accident: but if from wounded nerves, frequently not until some days after the lesion, and even when the vulnerary pain and uneasiness was removed. The external and internal senses are seldom interrupted until the last and perilous stages, when the brain shares in the general disorder. But the natural functions and also those of respiration and circulation are unmolested. It may prove fatal in a few hours; generally, if not relieved, in a few days; and rarely is protracted beyond fourteen. Until of late years, and the discovery of more effectual remedies, few recovered. Its danger is increased by the sudden impetuosity of the assault; or from wounded nerves: the final tragedy is closed by convulsions.

Authors describe a spasm of the lower jaw and tetanus of infants, which they term Trismus: this is most frequent and dangerous early after birth: the aperture of the mouth and gums is contracted, and with difficulty separable: its lips and mouth remain

main nearly motionless, with contention or impracticability in suction : and sometimes the spasm becomes general amongst the muscles. I read in authors the diagnosticks of another species of tetanus, which they represent as not unfrequent in the European regions, and especially amongst infants ; the symptoms agitation, trembling, convulsions, distortion of the lips, grinding of the teeth, difficulty of suction and deglutition, regurgitation of milk by the nose ; the jaws locked together ; spastic respiration, and with groans ; the muscles of the neck rigid, with flushed face, tumid abdomen, vomiting, fetid stools. This, in some features, resembles what we term Inward Spasms. In fact, the history and accurate diagnosticks of infant diseases are as yet imperfect.

The predisposing and occasional *causes* of tetanus and its species, are wounds, particularly of the fingers and toes ; surgical operations, fractures, luxations, burns, injuries of a nervous tendinous and sensible part, bruised testicle ; suppuration, abscess ; cold and moisture applied to the body when heated ; sudden suppression

suppression of perspiration; sudden vicissitudes of heat and cold; repletion, foul stomach and intestines in infants; dentition; bile in the stomach; worms; poisons; ebriety; excessive evacuations, hemorrhages; suppressed salutary evacuations, exanthemata and cutaneous eruptions; abortion; difficult parturition; violent mental emotion; angina; lurking gout; hemorrhoides; hypochondriasm, hystericks, melancholy. In many of these it is merely symptomatick.

Spasms and cramps are idopathick as well as symptomatick; fugacious, or more fixed and constant; and may affect various portions of the external and of the internal muscular fibres; of the head, neck, face, eye, lower jaw, lips, arms, hands, fingers, thighs, legs, feet, penis; the tongue, fauces, pharynx, œsophagus, lungs, stomach, intestines, kidneys, ureters, bladder. Fugitive cramps in the legs excite excruciating pain, tumor and rigidity of the muscle.

St. Vitus's Dance. Chorea sancti Viti. This very uncommon disease may afflict either of the sexes about the period of adolescence

cence and puberty ; rarely afterwards. Its symptoms are lameness of one leg, which, when attempts are made to walk, is dragged as if paralytick ; and is then, more or less, convulsed : at the same time, whenever the patient attempts to convey any food or drink to the mouth with the corresponding arm, it is incessantly convulsed, with a rapid succession of gesticulations. Some are even compelled to dance, leap, run, sing, or laugh. The paroxysms vary in duration and frequency : sometimes they are terminated in half an hour : sometimes they continue several days, rarely a week, without intermission : sometimes they recur several times daily, leaving behind debility and weakness. Delirium and a degree of fatuity are not unusual in the paroxysms. The predisposing and occasional *causes* are mostly unknown : sometimes worms.

Catalepsis, and extasis. It falls to the lot of very few physicians, at least in this island, to see a single instance of this phenomenon, a living statue fixed in whatever situation and posture they happen to be in when seized : the legs and arms flexible, remain
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sometime in whatever posture they are placed by a spectator: the functions of internal and external sensation are suspended; the eyes are open; the countenance and colour are nearly natural; the pulse and respiration alone continue in motion, but obscure. The duration of the paroxysm is from a minute to hours, very rarely days: and the recovery as if from a profound sleep: in some with confused ideas of surrounding objects during the chasm. In the extasis strange visions are seen: and of these trances there are extraordinary instances on record. It may be complicated with somnambulismus, and hystericks. The *causes*, deep meditation, fanaticism, mental passions, intense cold, worms, foul stomach, suppressed evacuations: it is feigned by impostors.

Fainting and asphyxy: syncope, leipothymia, asphyxia, idiopathick, symptomatick. In syncope the action of the heart and of respiration become considerably weaker than usual, or for a short time suspended: the pulse and breathing are sometimes so weak as to be imperceptible; the countenance pale and cold, with a clammy sweat, especially on
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the forehead; the functions of external and internal sense, and of voluntary motion, during this vital chasm, are interrupted or suspended. It sometimes arrests suddenly, sometimes with preceding languor and anxiety about the heart, giddiness, and dimness of sight; objects are seen as through a mist, with noise in the ears, and sounds scarcely audible. In the gradation and duration of vital suspension, there are diversities: after the lapse of a few or more minutes they gradually revive, yawning, sighing; some with vomiting; and some without vestiges of reminiscence during the temporary interreign. This partial cessation of the vital functions distinguishes it, at the first glance, from apoplexy. Asphyxy is only a more violent degree of syncope in which the intire human machinery is stopped: the counterfeit of death; but in which there are embers capable of being fanned and vivified into vital renovation. The first exertions towards a restitution of the vital energy when suspended, are sometimes with symptoms of epilepsy and convulsions.

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The predisposing and occasional *causes* of syncope and asphyxy, idiopathick and symptomatick are, profuse evacuations and hemorrhages; venesection; tapping the abdomen in ascites; strong emeticks and purgatives; exhausted strength; violent exertions of strength, or muscular action; excessive fatigue; venery in excess; sudden terror or joy, or other mental emotions; intense anxiety; severe pain; offensive smells; foul air; close rooms and crowds, and the air contaminated with their breath and effluvia; charcoal fumes; foul stagnant confined air, and gas of old damp pits, wells, subterranean caverns, mines; mephitick vapours from fermenting liquors in considerable quantity; lightening, thunder-shocks; excessive heat; excessive cold; sanguineous plethora; various diseases of the stomach; poisons, narcoticks; repelled cutaneous eruptions; hysterick, scorbutick, arthritick, febrile; wounds or blows on the head, spine, or stomach; severe labour and parturition, in which the infant's head and brain is compressed, injured, or mouldshot, or the navel-string compressed, and the circulation interrupted; hydrocephalus; internal aneu-

rism, polypi of the heart, or large arterial trunks; rupture of large blood vessels, or of internal abscesses; palsy of the heart, dropfy of the pericardium; gangrene; drowning; hanging.

Palpitation of the Heart. Chronic is here meant, not transitory, which may occur on every sudden emotion of body or mind. In this the contraction of the heart is with preternatural outrageous rapidity and force, and often with audible strokes against the ribs, and intermittent pulse. It is generally periodical; and by continuance, it is evident that, from the convulsion of this important motory pendulum, the entire subordinate series of hydraulick offices, together with those of sense and motion, must share in the disorder. The predisposing and occasional *causes* are, plethora; repletion, intemperance in food or drink; suppression of habitual evacuations; excessive evacuations; inanition; passions of mind; long continued grief, terror, venery, pain, anxiety, thirst, immoderate exercise; light cloathing; extreme irritability, peculiar irritability of the heart, and debility, spasm,

spasm; pressure on the aorta; aneurism; ossification and straitness of the aorta; tumors about the great vessels; polypi; dropsy of the pericardium; impeded respiration and circulation through the lungs; broken ribs; weak disordered stomach, flatulence; diseases of the abdominal viscera; sweat of the feet, ulcers, scabs prematurely repressed; cachexy; hysteric, hypochondriack, melancholick, scorbutick, arthritick, atrabilarious, inflammatory.

Polypi of the Heart, internal Aneurism, and Ossification. Polypi are solid coagulums of blood, of a firm or fleshy consistence: aneurism a distention and weakness in some portion of the arterial coats, and partial enlargement or bulge in the sanguineous canal; the usual seat of the first is in the auricles and ventricles; of the second, in the large trunks, and more about their origin; ossification of the valves, and of the aorta, or the smaller branches, is more frequent in old age. The symptoms of polypi and aneurism are often ambiguous; most of them are common to some other diseases; such as difficulty of breathing, violent palpi-

tation of the heart, and anxiety aggravated by the least motion, with propensity to faint, intermittent pulse, pain under the sternum, torpor of the arm, pale face, edematous ancles, frightful dreams, timidity to walk alone without support. These, together with syncope and asphyxy, no doubt make a part of the sudden deaths, and some other casualties in the London bills.

I had nearly omitted the description of two diseases in which we are not personally interested; the Berbiers of Indostan, and the Raphania, once a European meteor. In the berbiers there is chronic tremulous motion of the hands and feet, sometimes of the whole body: at the same time pricking and formication, and some degree of insensibility; weakened voice; anhelation: it usually originates from suppressed perspiration. The raphania was once a transient epidemick, and principally noxious to infants; the symptoms stupor of the spine, sensation of pricking pain in the muscular fibres; the lower extremities rigid, sometimes convulsed; eyes rigid and distorted; pharynx constricted; tongue retracted.

Hypo-

Hypochondriasm, hips, spleen, and vapours, imaginary maladies. This chronic valetudinary infatuation is very frequent in our island: it occurs principally in the adult and middle age; seldom early in life; in the male more than in the female sex, especially in those of melancholick temperaments; and much more amongst persons of independent fortunes, and amongst literary and sedentary professions, than the exercised and industrious. Vapours are often complicated with diseases of the stomach, hystericks, melancholy. But in the true hypochondriasm, the valetudinary dyspepsy, and diseases of the digestive organs, seem rather a natural consequence and sequel of the lucubrious mental temperament: besides, in dyspepsy the mental perturbation is slight; it is also a far more universal disease than hypochondriasm, affecting equally both sexes; and the young as well as the old.

Hypochondriacks feel, or imagine they feel, all diseases; against these they combat with a thousand remedies, and exhaust the whole pharmaceutical routine. They exaggerate

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with minute narrative these morbid phantoms, which no other person can perceive, nor account for; examining their pulse, fatiguing and harassing their physicians, visitors, and domesticks; on the slightest grounds haunted with apprehensive forebodings of misfortunes, misery, and death; and in the utmost anxiety about the event, at the time perhaps that the appetite is not much impaired: in most things, however, their judgment is correct; their health and diseases excepted, which are the constant objects of their fears.

By such anxious sollicitude, and passive submission to fanciful and imperative chimeras, a luxuriant brood of symptoms, like irregular hysteria, are engendered: they at length convert, or at least aggravate, accelerate, and multiply imaginary into real evils, deranging the complicated offices of digestion and circulation: hence flatulence, eructation, indigestion, nausea, acid bilious vomiting, exspuition of watery fluid, irregular appetite; profuse, irregular excretions and secretions by urine, perspiration, saliva, mucus, diarrhœa, or its reverse constivencis;

tiveness ; with palpitation of the heart, flushing of heat and cold, fugacious spasms, anhelation ; obscure vision, vertigo, noise in the ears, headach, disturbed sleep, frightful dreams ; slothfulness, pusillanimity, want of resolution and activity, disposition to seriousness and sadness, shyness, suspicion, peevishness, moroseness : the mind often dejected and in despair, so as not to be solaced with hopes of relief. It sometimes ceases, or at least abates weeks and months, recurring in periodical exacerbations on any exciting cause or mental distress, intemperance, or vicissitudes and irregularity of the seasons. Costiveness and hardened feces indicate the obstinacy of the disease. It is not immediately dangerous to life ; but when of inveterate continuance, may terminate in insanity, cachexy, jaundice, dropsy, tympany, consumption.

The predisposing and occasional *causes* are morbid extreme of sensibility ; hereditary ; various depressing passions of mind ; studious sedentary life and abstruse meditation ; retirement to an inactive after a bustling busy life ; excess of venery, manustupra-

tion; wealth, indolence, transient, unsatisfactory amusements; revelling in pleasures, and cloyed with satiety; November fogs, easterly winds, firocco winds; intemperance in food or drink, suppression of usual and solitary evacuations, as menses, hemorrhoids; repulsion of cutaneous eruptions; obstruction in the circulation through the vena porta and liver, and in the biliary secretion; obstruction in the abdominal viscera; debility in the stomach and intestines, and consequently vitiated chyle; pitta in excess; worms; irregular gout; hystericks; intermittent fever.

Insanity, lunacy, mania, melancholia, and complex insanity. During the preceding century, distracted and lunatick was the term in the London registers; and in the last thirty years of that century, amounted in the funerals to 544; but in the present century, are quadruple. We must reflect, that two of the largest lunatick hospitals in Europe are erected in this metropolis, exclusive of several large private madhouses; all of which are of late years enlarged and multiplied in London and its suburbs. Into these

these publick and private receptacles many lunaticks, from sundry parts of the kingdom, are congregated; amounting in all, by the nearest calculation which I can form, to upwards of one thousand. Perhaps those whom nature originally, or disease branded as idiots, are also included in the lunatick catalogue of mortality. The coroner's inquest generally returns suicides as lunaticks, after reciting the mode of their death; but the searcher's reports in the bills of mortality, have invariably ranged lunatick and self-murder under two distinct heads. I have reason to believe that many lunatick deaths in London are not reported, from their being interred in dissenting and unregistered burying grounds, or in other places of interment without the verge of the bills; others intentionally suppressed, and a considerable remnant amongst the suicides and drowned. It is probable, that in lunaticks and suicides, this island may challenge any other in Europe, whether in modern or in ancient times.

In illustrating this disease, above all others so little understood by the community, by
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the medical profession, or, in truth, by the greatest part of the authors on the subject, I shall rather trespass beyond the limits of a concise systematic survey of diseases. I had long since procured the printed annual reports of Bedlam during thirty years, from 1750 to 1780, wherein it appeared, that out of 6000 lunatics, the deaths amounted to 1200, or 1 of 5. This information, so far as it went, was partly truth, but it was not the whole truth; and, in confirmation of the general proverb, I was compelled to search for it in a well. I was anxious to extend my inquiries to a vast variety of particulars, not one of which could be learned from the crowd of authors, good, bad, and indifferent, whom I perused for this purpose; from the remote era of the Greek and Roman Catholicon, the Hellebore, down to the present time.

Chagrined with this unprofitable research, I waited upon the learned and venerable physician of Bedlam, Dr. Monro; who, with his accustomed liberality and affability, recommended me to his son, upon whom the principal medical department of Bedlam now devolves;

devolves ; and in whom the hereditary virtue and exalted medical reputation of the father, are not likely to suffer any diminution. Dr. Monro, junior, introduced me to Mr. Gonza, the apothecary of Bedlam ; whose curiosity and learning induced him to keep a private register of all the patients ; and with all which Mr. Gonza most obligingly furnished me. It is from the records of this respectable and well-informed gentleman, especially on the subject of insanity, that I am enabled to form all the following Tables and data respecting a disease, wherein, except to the few high-priests of those temples, the rest of the Esculapian train are nearly as ignorant as the ancients ; and the unenlightened mass of the community stare with superstitious amazement as the Israelites formerly on the epilepsy.

In penetrating this untrodden wilderness, and reconnoitering an unexplored host of morbid foes, I shall proceed with the cautious investigation of astronomers and natural philosophers ; first to establish the facts and phenomena previous to any deduction or inference. From Bedlam, the largest palace
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and congregation of insane in any part of the globe ; and from its valuable, but hitherto dormant archives, I shall attempt to settle all the leading and important data, by analyzing its internal history and transactions during fifteen years, or half a generation ; which is sufficient to decide every ambiguity nearly as well as half a century. The materials are extracted from many volumes ; they are condensed, classed, and arranged into a concise compendium, with no little trouble and fatigue to the author. In number, and consequently in magnitude of information, they must be as superior to any solitary individual observations on this subject, as the swelling flood of the Thames is to one of the thousand smaller rills which are swallowed up in its majestic stream. In this way we shall not be confounded with contradictory affirmation and negation, and the clash of oracles.

The following, therefore, are the general propositions which I shall endeavour to demonstrate, and upon them to found a multitude of others : the comparative proportion of insane males and females ; their ages ; the
cured ;

cured; incurable, and dead; the length of time they were insane before admission; the mischievous; those who attempted suicide; and the harmless; the relapses; the periods when recovery may be despaired of; the various remote causes. Mr. Gonza had distinguished the married and single; but in a treatise of this nature, these, and many other minutiae, must be omitted.

The usual number, on a general average, of patients in Bedlam is 250; of which 110 are stationary incurables, male and female; and who remain there until they either die, or are discharged, for reasons hereafter to be explained. The remainder are a moving body, upwards of 200 of whom are annually admitted, and the same number annually discharged: the difference of males and females is very inconsiderable; in general the latter rather preponderate. During fifteen years, from 1772 to 1787, of 2829 insane males and females, their respective ages and numbers in each interval of life, when classed, were as follows: — Under 10 years of age, 1; from 10 to 20, 132; from 20 to 30, 813; from 30 to 40, 908; from

40 to 50, 632 ; from 50 to 60, 266 ; from 60 and upwards, 78. Of these the cured were, 934 ; the incurable, 1694 ; the dead, 230. Of these also, the mischievous were 743 ; attempted suicide, 323 ; not mischievous, 886 ; committed shocking murders, upwards of 20 ; relapsed, 535.

It seems necessary to be first mentioned, that I made memorandums of all the different periods, and time elapsed, from the invasion of the disease, or insane paroxysm, to their admission into Bedlam, from one week to one year and upwards. I do not, however, think it important to form a distinct class, or table, of these, but merely to observe in the aggregate, that of the patients admitted into Bedlam, the majority were not above six months unremittingly deprived of reason ; and those, in all the intervals, from one week to six months. The second great class were, in the intervals, from six to twelve months. After one year, and upwards, there are comparatively very few admissions, except on the incurable list.

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The ages at which insanity predominates are obvious, and require no comment. During the first period under 20, the greatest part of this small group were between 15 and 20. The ages of about 300, as also of their cures, incurables, and deaths, are omitted in the records: fractional exactness cannot be expected: but for gross calculation there is abundant accuracy. With respect to the cured, incurable, and dead, I shall make a few remarks: amongst the discharged I found a considerable number reported as sick and weak; others, and amounting to some hundreds, as troubled with fits, or with paralytick strokes, and some with a complication of both the latter maladies; and also a small fragment of pregnant females; and none of these liberated from insanity. All these I threw into the incurable list, as I could discover very few of them ever to return back again. Many of the sick and weak may safely be added to the dead list; being on the confines of the grave when dismissed. The incurables likewise contain those admitted on the incurable list of Bedlam, as well as the great mass discharged from thence incurable, after one year's trial.

About

About one of every three are reported as cured; but from them we must subtract for relapses, which probably would sink the cured, radically, to one of 4. The cured are reported in all the intervals, from one month to one year. Formerly the mortality in Bedlam was swelled by adventitious diseases, particularly the small pox and scurvy; both of which are now prevented. Melancholy and confinement are known to predispose to scurvy, but by an increase of vegetable diet, this disease is no longer in the mortal catalogue of Bedlam. The mental derangement, no doubt, must add to the mortality: numbers discharged, as troubled with epilepsy and palsy, must have fallen into these afflictions posterior to their admission, as they are always an exception: and it is observed, that few are cured without the fits also. The insane generally die of epileptick, apoplectick, and paralytick strokes, and convulsions, of frenzy, atrophy, or nervous tabes. If we were to add the sick and weak, the fits and palsy, I believe lunatick mortality would be doubled; and would then be about one of five or six. More comparatively die of the insane patients
recently

recently admitted, than of the stationary incurables.

The greatest proportion of patients in Bedlam, especially at the beginning, have attempted some mischief against themselves, or their relations and keepers : in the above list there are above a score of atrocious murderers, exclusive of suicides. There are parricides, and butchers of their own offspring. Their mischievous acts and attempts were in various ways, by jumping out of windows, hanging, drowning, stabbing, shooting, tearing off their cloaths, setting fire to houses, and several other overt acts of malignity. Some were mischievous by open acts of violence ; others by threats only. Some not mischievous at first, have become so, and "*vice versa*;" and several reported as not mischievous, have afterwards hanged themselves. Females, as well as males, are mischievous ; but I do not observe so many dreadful murders committed by the female sex. By far the greater majority of patients in Bedlam, except at temporary intervals and exacerbations, walk peaceably about the wards : separate confinement in their cells,

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strait

strait waistcoats, or in the ferocious maniac, handcuffs and chains, soon render them tractable and obedient: a very small number, even of incurables, are kept as wild beasts, constantly in fetters. Some, by time and long confinement in the incurables, and who were extremely vicious and dangerous, become harmless, and are then discharged. From all the variety of causes, depressing or stimulating, I perceive mischievous or harmless. This circumstance seems to make no material difference in the curable or incurable. Numbers who had attempted suicide, some who had committed murders, are in the list of cured.

I also perceive recoveries after reiterated relapses; and the prognosticks are then nearly as favourable as though it had been the first attack. No disease is more prone to relapse: these are, at various intervals, in different persons, from one to upwards of twenty years, and during this period, either one or many relapses. Multitudes of the relapses are either after being discharged cured from Bedlam, or before they were brought there for admission. There are some few instances, wherein

wherein the sagacious physician of Bedlam has been deceived; and when, after apparent recovery, and the subsequent lunatick quarantine, patients have been discharged with sound bills of health, but on the same day have relapsed; and even before departure from the house. They are in danger of relapses from all the causes which give birth to insanity. From the proportion of cured and incurable, and successive relapses, many of which at length become incurable, we see how difficult it is, as yet, to expel this mental usurper, and to restore chaos into order.

I do not observe so great a difference in the recovery, from either age or cause, as might be expected: there are cured and incurable, promiscuously at all ages; and from all the different causes, whether adventitious or hereditary. Even from hereditary insanity, they seem to recover nearly as well as from the less inherent causes: there are several instances of recovery when hereditary from the parents on both sides. In some, where the disease was entailed, it has made its first appearance in all the intervals from puberty to fifty years of age. I was

struck with one curious instance of hereditary insanity from both parents, in a brother and sister, and nearly about the same time; the one twenty, the other twenty-three years of age; one of whom was melancholic, the other maniac. There are some few instances of recovery after one, two, or even three years pertinacious privation of reason: some few of the incurable in Bedlam have recovered; but all these are very rare. After only one year's uninterrupted perseverance of the disease, they are generally refused admission into Bedlam, except as incurables; and of such I cannot perceive the cured above one or two *per cent.*

Many features and particulars of the insane character and history have now been developed. But I have not yet, as in other diseases, ventured to affix a nosological signature, or definition, and to circumscribe the limits between the insane and the multitude of others reputed as rational beings. In such an attempt I might probably appear as ridiculous as the Greek philosopher in his concise definition of man. It is not confined within the porticoes of Bedlam and madhouses: we

we might find it sprinkled over the earth; not only amongst the fanaticks of Asia, the Bonzes and Faquirs, and some of the austere cloistered devotees of Europe; but thro' every rank and station of civilized communities.

Insanity has been usually described in the two extremes of mania, and melancholia: but it is frequently of a complex nature, with alternating exacerbations of frenzy, and of melancholy. It is termed a delirium without fever; of which mental anarchy there are innumerable symptoms, gradations, shades, species, and varieties: the enumeration of which would be as infinite as the diversity of their faces and ideas. Sometimes insanity bursts out unexpectedly, like a squall of wind or thunder-storm: but in general the paroxysm is preceded days, weeks, or even months, by few or many of the following symptoms, which vary in different persons: quick motion of the eyelids, redness or wildness in the eyes and looks, restlessness, headach, vertigo, by something unusual and different from their ordinary conduct in the speech, gestures, actions,

looks ; by high or low spirits, loquacity, or taciturnity : in some, the appetite is voracious ; in others, there is aversion to food.

On the first ebullition of frantick mania, the looks, voice, and gestures are wild and impetuous ; in many audacious and ferocious : they are irascible, impatient, and violent on any contradiction or restraint : they ramble with wonderful rapidity of ideas, and garrulity of speech, from one object to another ; shouting, singing, laughing : some, transported with extacy, roam in incoherent rhapsody through all the fairy regions of enchantment and romance : we observe maniacs in idea personating every being and object celestial and terrestrial, animate and inanimate. But by such numbers either attempting or committing mischief upon themselves or others, it is evident that the disagreeable, turbulent, malevolent, and desponding passions do often predominate ; there is more of the jarring and discordant than of the harmonick notes and keys : some maniacs are distracted with malevolence, antipathy, animosity, rancour, and revenge. In the melancholia, the mind is generally rivetted

rivettèd upon one object and train of thought, about which they incessantly rave or ponder : many are cogitative, taciturn, morose, or fixed like statues : and more of this character are said to commit suicide. Some, plunged into despair, are haunted with all the horrors of tartarus ; or even chained within the gloomy dungeons and inexorable bars of Cerberus.

In mania the strength is prodigiously increased. In general, insane persons endure hunger, cold, nakedness, want of sleep, with astonishing perseverance and impunity. During the exacerbation, most are restless ; and most are costive. Some obstinately refuse all food and medicine, and are drenched by compulsion, as horses taking physick ; which at length renders them more docile. Some, if indulged, are ravenous and insatiable as wolves. Some melancholick, on relapses, have only a periodical invasion of profound grief, want of sleep and appetite, restlessness and anxiety. Many persons, universally considered as insane, will however, at times, act, speak, converse, and reason acutely on various subjects, until

some particular mental string or chord is touched. With respect to general prognosticks in insanity, we have been already copious and diffuse; and shall only add, that in some degree of mania, more favourable hopes are entertained than in gloomy melancholy: indecency, no intermissions or remissions, epilepsy, palsy, tabes, frenzy, are all inauspicious. The piercing and intuitive eye of the experienced physiognomist, will also discern presages which are concealed from ordinary comprehension and observation.

Of the predisposing and occasional *causes* of insanity. We all know by demonstration and reading, that one eighth part of the blood is circulated through the head: we know the origin and distribution of its spinal elongation, and forty pairs of nerves; its internal structure to the most minute discernible filaments; its division into cavities and prominences, many of them with uncouth names, and swelling the nauseous vocabulary of anatomy. But still the latent predisposition or frailty in the recesses of the brain, which render some more than others liable to this mutiny of reason, on the application

plication of remote and obvious causes, are totally unknown. Most of the proximate causes assigned in authors for madness, are mere hypotheses; and of no active use to the community, or to medicine. The pretended discoveries of the anatomical knife; and the specific gravity or levity of the brain in scales, are equally conjectural. The great master, decypherer, and physiologist of the intellectual functions, Mr. Locke, has here taught us to despair, and to be convinced of the imperfection of our senses and faculties. Literature, however, ancient and modern, abounds with madmen and authors, especially on the intellectual operations, and springs of sense and motion. Many other subjects yet remain to engage our attention, and to prevent our digressing into the jaded topick of temperaments; of original organization; or the progressive revolutions, corporeal and mental, by age and time. This is an inexhaustible theme for observation and lucubration.

The late Dr. Mead broached a proposition, which has been transfused through most succeeding authors: that from sudden trans-
ports

ports of joy, and the exhilarating passions, more were insane than from contrary causes : and he quotes Bedlam as an instance during the year of the South-Sea scheme, when great fortunes were suddenly acquired and lost. I took the trouble, so far as they are recorded, to class the different causes of insanity ; which contain nearly one third of the whole patients during the fifteen years of our scrutiny ; wherein I do not find a single example in proof of Dr. Mead's aphorism, but hundreds in direct contradiction to it ; as appears in the following table of causes :—Misfortunes, troubles, disappointments, grief, 206 ; religion and Methodism, 90 ; love, 74 ; jealousy, 6 ; fright, 51 ; study, 15 ; pride, 8 ; drink and intoxication, 58 ; fever, 110 ; parturition, 79 ; obstruction, 10 ; family and hereditary, 115 ; contusion and fracture, 12 ; venereal, 14 ; small pox, 7 ; ulcers and scab dried up, 5.—I have not time to comment upon these causes : to them may be added all the train of exasperating passions ; long attention of mind rivetted upon one object ; faults of the blood or bile, and circulation in the vena porta ; plethora in the vessels of the head ; *furor uterin* ;

erin; in some of the Asiatic nations, opium; also intoxicating poisons snuffed by the nose; "*cum multis aliis.*" The revolution of the seasons seem to have no effect on insanity; nor are the effects of the moon conspicuous in Bedlam.

DISEASES of the *External Senses*; including vision, hearing, smell, taste; to these we shall add the diseases of the voice and speech; obstructed deglutition; sterility, and morbid irritability of the generative organs. The derangement of those delicate and precious senses through which we derive such supreme delight; through whose avenues are conveyed into man the first rudiments of all his variegated ideas and knowledge, are important objects of medical scrutiny; notwithstanding very few from these causes are precipitated into the crater of mortality. I could, however, have wished to ascertain from registers, in conformity with my general plan, the proportion of cured and incurable:

able ; and especially the average of blind in a community.

Vision. The principal diseases may be comprehended under opthalmia, fistula-lachrymalis, gutta-serena, cataract, specks on the cornea. I exclude some other natural defects, rather than diseases, such as myops, presbyops ; for the cure of which the optician is the best physician.

Opthalmy, or inflammation of the eyes is a frequent complaint : it may be in the exterior membranes of the globe, or in the edges of the eye-lids ; or may be a complication of both ; it may be in one, or in both eyes ; it may be general, partial, external, internal, temporary, chronic, idiopathick, symptomatick : of all which species there are various gradations. In this local malady there is commonly little or no fever ; but heat, pain, redness, and inflammation ; the vessels of the eyes seem gorged with blood ; the anterior portion of the tunica sclerotica, and the conjunctiva, resemble a scarlet cloth, with impediment in vision, intolerance of light, lachrymation. In the inflammation

inflammation of the cartilaginous ring of the eye-lids or tarsus, there is frequently some remains of small ulcerations in the sebaceous glands. The external is by far the most frequent form of opthalsy; and, under discreet management, is attended with trifling danger: sometimes, however, it is followed by specks on the cornea, or callosity, and blindness; and violent inflammation has extended to the interior parts of the eyes and retina. In the internal inflammation of the choroid and retina, no redness is perceptible externally; but there is excruciating pain, headach, intolerance of light, restlessness, often delirium, in a few instances, insanity: and if not relieved in the course of fourteen days, there is danger of incurable blindness.

Fistula lachrymalis. In this partial inflammation affecting the lachrymal sac and ducts, and obstructing the descent of the tears, or superfluous moisture of the eyes into the nose, this fluid necessarily trickles down the cheeks, and the eye is overflowed with water: on pressure of the internal angle and puncta lachrymalia, there is a discharge of glaucous serum, by which the eye-lids, during

ing sleep, are glewed together. The degrees of inflammation and obstruction are various. In the inveterate stages it may terminate in abscess, ulcers, and caries of the contiguous nasal bone.

Gutta-serena, amaurosis; in one or in both eyes, and in various gradations, from obscure vision to cheerless tenebrosity. To a spectator the eyes appear nearly as in health, only that the pupil is dilated and inanimate; the retina insensible to the rays of light, and the iris mute, without corresponding contraction or enlargement: a physiognomist might say, there are no sensitive emanations or magnetick rays emitted through this mental mirror. It attacks suddenly or gradually, and sometimes intermits; but in general it is chronic, and always dangerous; often irremediable: sometimes it is accompanied with headach in the anterior part over the eye-brows.

Cataract may affect one eye, but in general both: it arises from disease or opacity of the crystalline lens obstructing the visual rays in their course to the retina: the consistence and colour of the lens is various, white, pearl,

pearl, green, yellow; and from these the oculist forms his prognostick: in couching the eye the pearl-coloured is preferred: the white is too soft; the green and yellow incurable; as is also that species wherein the strongest rays of light excite no contraction of the pupil. Cataracts in general are gradual in their formation; weeks, months.

The predisposing and occasional *causes* of injured vision and of opthelmy, external violence and blows; sudden suppression of perspiration; extraneous bodies or acrids admitted within the eye-lids; acrid metallic fumes, and noxious exhalations; long exposure to confined smoke, especially from wood fires; smoky houses and cottages; acrid collyria; epidemick state of the air, and infection; long continuance of wet weather; long exposure of the eyes to the rays of strong light, to snow, or luminous objects; cold streams of air; suppression of salutary evacuations, or cutaneous eruptions, and of chronic ulcers; acrimony of the blood; interruption to the free return of blood from the head; frequent intoxication: nocturnal studies; long want of sleep, grief, tears; small
tubercles

tubercles within the eye-lids ; ulcerated eye-lids ; variolous : morbillous ; scrophulous ; venereal ; erysipelatous ; rheumatick ; catarthal ; intermittent ; herpes ; cancerous. Of fistula-lachrymalis, inflammation of the lachrymal sac, or ducts. Of gutta - serena, plethora, distention of the vessels of the retina ; palsy of the optick nerves, general or partial ; diseases of the brain, or of the retina ; profuse and suppressed evacuations ; excess of venery ; chronic headach ; ebriety ; cachexy ; venereal ; intermittent ; symptomatick in the irregular gout, apoplexy, &c. Of the cataract, opacity of the crystalline lens. The general causes of injured vision, exclusive of opthalmy, may be briefly enumerated ; and are long attention to minute objects ; weakness of the power to contract the pupil ; faults of the globe ; defect of the aqueous humour, its impurity or density ; opacity of the lens, or of the vitreous humour ; the retina callous or too sensible ; faults of the optic nerves ; contraction, concretion, flaccidity of the pupil ; gibbous or convex lens, or too near and flat ; dropical eye ; spasm, or palsy of the ocular muscles ; diseases and ulcerations of the eye-lids and ciliary

ciliary glands ; ulcers and fistula, specks and scars, in the cornea ; films growing from the angle of the eye ; the eye-lids inverted, elongated, concreted ; various diseases of the brain from internal or external causes.

Hearing, injured by deafness, noise in the ears, inflammation. The first is a frequent infirmity in old age. The *causes*, faults in the original structure of this curious and complex organ ; defect of the auricle, straitness of the external auditory tube, its obstruction or concretion : the tympanum relaxed, callous, obstructed with hardened wax, mucus, serum, ulcers, luxuriant flesh ; caries, luxation of the small auditory bones ; obstruction of the vestibule, cochlea, labyrinth : the membranes lax, dry, indurated ; palsy, and spasm of the internal auditory muscles ; constriction and obstruction of the eustachian tube ; colds, catarrh, obstructed perspiration, rheumatism, plethora, suppressed evacuations ; disorders of the stomach, costiveness ; nervous, loud explosions, age, fever, soporous diseases, and diseases of the auditory nerves, and of the brain ; symptomatick in several diseases. In-

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flammation

flammation of the ear excites excruciating pain, sometimes delirium.

Smelling too acute, or blunt, or unnatural. The *causes*, the membrane lining the nose rigid, dry, its deficiency or excess of mucus tense, irritable, obstructed, scirrhus, callous, carious, stifled with polypus, snuff; palsy of the olfactory nerves; diseases of the brain; fordes and pus in the olfactory sinusses; and also in the mouth, gums, teeth, tongue, larynx, fauces; foul effluvia from the stomach.

Sternutation is symptomatick in several diseases; but sometimes, is a primary malady, it has been known to infest hours, days, or even weeks. The *causes*, epidemick influence of the air; suppressed nasal hemorrhage, or cutaneous eruptions; venereal; worms, or abscess in the sinusses; disease of the brain.

Taste. The *causes* affecting the principal gustatory organ, the tongue: fordes of the tongue and mouth in various diseases; the saliva in quantity or quality diseased, and either depraved from the blood, or from washing

washing over diseased parts of the mouth or palate ; tension or laxity of the gustatory organ, or papillæ ; faults of the lingual nerves ; diseases of the stomach, fauces, nose, tongue, lips, &c.

Voice and Speech. The immense multiplicity of objects, and the distance to the end of our literary journey, check us from expatiating upon this prolifick topick. Under it may be included hoarse, guttural, stridulous, deadened, stifled voice, or sound at the glottis ; stammering, lisping, defect and impediments in articulation, muteness. The *causes*, defect or waste of mucus by exertion of the voice ; destruction of the mucus ducts of the larynx ; its cartilages ossified ; injury of the recurrent nerves ; laxity and palsy of the muscles of the glottis and contiguous cartilages ; venereal ; changes of weather ; symptomatic in several diseases. Voice and speech may be injured in all the various parts of their complicated organization ; the larynx, pharynx, tongue, uvula, fauces, nose, palate, gums, teeth, lips.

Sterility of the sexes : no inconsiderable number of both sexes are incapacitated from

exercising that important and divine function of giving creation to their own species. The *causes* in the male sex are, palsy, or torpidity of the penis, or its nerves, or generative organs ; the penis short, monstrous in size, its prepuce straitned ; impediments in the urethra and feminal ducts ; testicles, epididymis, vasa deferentia ; the semen inert, vapid, aqueous, scanty ; weakness of the ejecting or accelerator muscles ; corpulency ; too tense erection ; old age ; castration, masturbacion, too frequent coition, extreme chastity, venereal disease, inebriety, broken constitution, tabes-dorsalis. In the female sex, original structure of some part of the generative machinery of the ovarium, fallopian tubes, womb, vagina, labia, clitoris ; straitness, concretion, obstruction of the vagina or womb from inflammation, scirrhus, polypus ; cold frigid temperament ; promiscuous coition ; excess of venery, irritability ; fluor albus, obstructed menses, irregular menstruation, cachexy.

Morbid irritability of the genitals, including priapism, pollution, furor uterinus. Of involuntary pollution we have treated under dorsal tabes.

tabes. In our climate the uterine mania rarely occurs in that extreme of indecency described by authors. The woman at first is bashful and silent; the pulse and circulation are agitated on mentioning a venereal topick; by significant looks and gestures she betrays her passion; and if disappointed, becomes low-spirited, anxious, and wastes in flesh. The same has happened to some women who had the mortification to be linked with impotent husbands. Sometimes, however, this universal passion has burst into a flame; the woman losing all sense of shame, soliciting, with obscenity in speech and gestures, the embraces of the other sex; and raving on this theme with maniacal insanity. The *causes*, acrid serum, spasm, inflammation of the urethra, vagina, or other generative organs; irritation of the bladder, womb, rectum; obstructed menses; fluor albus, heat, excoriation of the vagina, venereal; stimulating, acrid, diuretics, and emmenagogues; stimulating diet and drink, excess of venery, masturbation, libidinous books, prints; protrusion of the vagina.

Deglutition interrupted: we very rarely meet with this similitude of *tantalus*, wherein food or drink is either swallowed with difficulty and pain, or totally interrupted in its descent to the stomach, and regurgitated by the mouth or nose. The causes spasmodick constriction of the œsophagus, and in various parts of the tube; palsy of the muscles of deglutition; tumors or scirrhus in the pharynx, œsophagus, pylorus, trachea, thyroid or dorsal glands; aneurism and enlargement of the aorta, ulcers in the œsophagus; luxation of the os hyoides; compression of the pharyngeal nerves; cachexy, worms, crudity, passions, extraneous substances stuck in the throat. The spasmodick is periodical and painful; and also affects the voice: in the lower part of the œsophagus it excites pain between the shoulders; sometimes eructation and vomiting.

Manducation. Diseases of the teeth are the principal impediments to the exercise of this function. There are few adults who cannot describe the pangs of tooth-ach from their own feelings. It is generally intermittent, seldom dangerous to life, except during the
first

first dentition of infancy. Its constant symptoms, pain, flow of saliva, restlessness: its variable symptoms, swelled face, carious loosened teeth; fistula, exostoses of the gums and jaws. The *causes*, inflammation of the periosteum of the teeth, gums, or jaw; suppressed perspiration; moist air; catarrhal defluxion; suppressed habitual evacuations, nasal hemorrhage and venesection; plethora; intermittent, scorbutick, arthritick; rheumatick; caries of the teeth; sugar eat; beetle and tobacco chewed, acrimony of blood or saliva; spirituous liquors; mercury; suppuration in the maxillary sinusses and gums; sponginess and flaccidity of the gums and periosteum; irritation and disorder of the fifth pair of nerves.

DISEASES of the Stomach and Intestinal Tube, are very universal and frequent maladies in both sexes, and throughout all orders and ages. The stomach and alimen-

tary canal are furnished with numerous nerves ; and the sensibility of the former very acute, especially at its upper extremity. The length of the human alimentary tube, from the mouth to the anus, is five or six times the length of the whole body : it is folded into many convolutions, as may be daily seen at shambles, on the opening of animals. Into this alimentary muscular and contractile sewer are incessantly heaped food and drink, besides a variety of copious secretions from the body, requisite in the process of digestion and assimilation of chyle, as saliva, pancreatick fluid, bile, mucus, and arterial exhalation from the whole of its internal surface.

Within the short space of a few weeks, the generality of mankind consume more food and drink than amounts to the whole weight of their bodies. This diurnal superfluity and load, together with the corrupted and abraded animal parts of the body, and the different secreted fluids, must again, in a few hours, be expelled through the principal human excretories ; the fecal, urinary, perspiratory. In the healthy state, by far
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the smallest proportion of this diurnal superfluity is through the intestinal excretion : the greatest part is absorbed by the lacteals and lymphaticks, intermixed with the blood, and afterwards filtered by urine, perspiration, and in the puerperal state, milk. In cold climates and winters, especially if moist, the urine ; in warm climates, the perspiration preponderates. But in these prodigious diversities ensue from exercise or rest, sleep and waking, passions of mind, the quantity or quality of food, cleanness of the skin, constitution, atmosphere, and the alternation with each other of these excretions. Again, when we reflect that from the small parotid glands, between a pint and a quart of saliva is secreted during the twenty-four hours ; and on the prodigious secretion through the kidneys, we may easily conceive in the natural and morbid state, what a considerable quantity may be secreted from the liver, the largest of the abdominal viscera : making, however, some deduction for the slower circulation through the vena porta.

The chart of London diseases demand some criticism on that inextricable miscellany

lany surfeits, stoppage of the stomach, vomiting, cholick and gripes, bloody flux. In the last century, surfeits make a monstrous article in the chronicle of deaths, amounting in some years to four hundred ; whereas, during fifteen years of the present century, they sink down to only fifteen. Yet all are witnesses that good eating and gormandizing are not worn out of fashion in this metropolis. Medical men know that surfeits and intemperance are often merely predisposing or occasional causes of diseases : they may rouse latent disorders, or dispose the body to receive noxious impressions externally. The searches therefore formerly, as I suspect, made many of these reports from the ostensible cause which they imagined gave birth to the disease and mortality. At the same time, I am not contending for the delicacy and moderation of our forefathers appetites. They were unquestionably in the last century, and partly indeed from the cheapness of flesh-meat, and scarcity of vegetable nutriment, more carnivorous in their diet than the present generation.

Stoppage

Stoppage of the stomach also, is a morbid centaur in the last century. It would baffle the ingenuity of an antiquarian to decypher the true import of this term: severe sickness, or the word Abracadabra, would be full as intelligible. It is a vulgar name for rejection of food; and there are few diseases in which the stomach does not sympathize. What proportion of the mortality of infants, adults, or the sexes, are crammed into this absurd article, I submit to the reader's criticism.

An important circumstance, and overlooked so far as I know, by all the calculators and criticks on the rise and fall of infant diseases in London, and especially of convulsions, is this. In the first column of 15 years, at the beginning of the present century, colick and gripes of the guts amount to 13668, but continue through every succeeding column to diminish; and in the last or fifth, dwindle to 769 only. What is meant by this complaint, colick and gripes? was it dysentery? We observe that bloody flux makes a separate, though small group, through all the five columns. Were these two diseases con-
founded

founded in the annual reports? or may it not be alledged, that many infant diseases and deaths, which were formerly crowded into colick and gripes, are in modern times transferred to the vortex of convulsions? I am aware that, in reply, it may be suggested that drains, sewers, drier lodgings, less damp, alteration in diet, and the more plentiful use of vegetable and fermented liquors, have decreased dysenteric complaints in this city; and also, that Dr. Sydenham, in 1670 and 71, describes an autumnal dysentery as annually prevailing in London, and about two months in duration. Turning the subject into every possible view, I continue to suspect that numbers of infant diseases, and commonly terminating fatally in convulsions, were formerly heaped into gripes and colick; for during the last thirty years of the preceding century, they amount to the enormous number of 69,799.

Diseases of the Stomach are idiopathick and symptomatick. Under the present head we shall include inappetency, indigestion, nausea, vomiting, eructation, acidity, cardialgy, heartburn, regurgitation of bile, pica, soda, pyrosis,

pyrosis, hiccup, rumination. Several of these are obvious symptoms, and are often complicated. Inappetency is generally accompanied with nausea. Foulness or feculence in the stomach, is indicated by weight and load in that region, anxiety, nausea, eructation, disagreeable taste in the mouth, foul tongue : the state of the gustatory organ is some index to that of the stomach. Acidity in excess will excite eructation, flatulence, heartburn, gnawing pain in that part, irregular appetite and craving, colicks, gripes, diarrhœa, vomiting. In infants, acidity is very frequently predominant ; hence acid eructation, restlessness, gripes, green curdled feces, tumor of the abdomen, dyspnœa, sometimes costiveness, or diarrhœa, and sometimes dry cough, and muscular paleness and flaccidity. Of bilious regurgitation there are various gradations : with severe sickness at the stomach, nausea, bilious vomiting, bitter taste on the tongue, and its surface furred ; inappetency, frequently colick ; sometimes temporary jaundice. The cardialgy is a severe pain, threatening syncope. The pica an aversion to natural aliment, and craving for unusual. The bulimy is a monstrous appetency for food.

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The heartburn denotes a sensation of uneasiness, heat, and acrimony: the soda, or water-brash, a burning heat in the stomach and fauces, anxiety, acid eructation, exspuition of lymph, and fretting the edge of the teeth.

The pyrosis, or cardialgia-sputatoria, is more frequent and endemic in some countries than others; and, it is alledged, more amongst the poor than affluent, and amongst females than males; and of the former, the single and barren: it rarely occurs in puberty, or in old age. The pain at the stomach and back is often very severe, and with anxiety, until the torrent of watery fluid bursts forth, which, after continuing one or two days, intermits: but relapses are frequent, and the disease is contumacious. The hiccup, or sudden convulsive inspiration, is a complicated affliction of the stomach and diaphragm. Of rumination in the human species, there is scarce an instance in a generation.

The predisposing and occasional *causes* of the preceding diseases of the stomach are in
general,

general, weakness of the muscular coats; diseases of its nerves; small omentum; the digestive menstrea as bile, saliva, mucus, defective or depraved; frequent exspuition and waste of saliva; slow digestion, and food corrupted in the stomach; crudities in the stomach; vitiated chyle; excess of pituita, acidity, bile; relaxed pylorus, large stomach, calculi in the biliary ducts; scirrhus stomach, pancreas, liver, spleen, duodenum; mucus of the stomach abraded; ulcers, cancer, depression of the xiphoid cartilage; frequent emetics and purgatives; valetudinarian regimen, too much physick, quackery, and care about health; gluttony, epicurism, pampered indulgence of that passion and appetite; frequent surfeits; dram-drinking; malt liquors in excess; the aliment in quantity or quality, or in multiplicity at one meal, injurious; ravenous ingurgitation at meals, and imperfect manducation; fat, rancid, corrupted, salted, and indigestible farinaceous food; tea, tobacco, watery liquids: in infancy, acid milk, sucking to excess, curdled milk in the stomach; superfluous acid generated in the stomach; too violent agitation in the nurse's arms; passions of the nurse; too tight bandages;

ages ; saliva swallowed in excess during dentition ; too much vegetable diet and milk : to the catalogue of general causes may be added various depressing and cankering passions of mind ; cares and troubles ; want of sleep, intemperate study, sedentary life, unremitting application to sedentary business ; moist cold air, foul air of cities ; leaning forward on the stomach, and improper postures of the body ; costiveness ; suppression of salutary evacuations and cutaneous exanthemata ; sanguineous plethora ; consequence of hereditary infirmity, bad health, old age, chlorosis, worms, gout, rheumatism, intermittent and remittent fevers, and of various other acute and chronic diseases ; poisons ; extraneous substances swallowed, contusions on the head ; external injuries ; blows and falls.

Cholera Morbus is much more frequent in tropical and warm climates ; and in northern regions in the summer and autumnal seasons, especially in unusually hot summers. The disease is not unfrequent in this island and metropolis ; nor is it entirely restricted to the warm season only. The symptoms are
sickness

sickness and nausea, succeeded by violent vomiting and purging, of a bilious nature, with gripes, tenesmus, tension of the abdomen, anxiety, great prostration of strength, intense thirst, cardialgy, and sometimes muscular spasms in the lower extremities. The vomiting and purging either commence about the same time, or alternate with each other : and throughout its rapid race there is seldom any fever. It is often a salutary effort of nature, by which a superfluity of bile is disembogued ; and in cases of ordinary violence, may continue a day or two, and then cease. In more tremendous assaults it sometimes proves fatal in twenty-four hours ; portentous omens of which are violent vomiting and purging, sudden prostration of strength, quick weak pulse, hiccup, fainting, cold sweats and extremities. The predisposing and occasional *causes* are, hot climate and seasons ; in warm climates extreme heat and dry weather, succeeded by a fall of rain and coolness of the atmosphere ; sudden changes of weather ; increased secretion of bile and corrupted bile ; surfeits, intemperance, accumulation of feculence in the intestines and liver ; excess of food or drink without suf-

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ficient

ficient exercise ; indolence, luxurious living and sedentary life ; malt liquors ; passions of mind ; repulsion of cutaneous eruptions ; gout ; poisons ; worms ; symptomatick in intermittent and remittent fevers.

Dysentery, bloody flux, spurious remittent. This contagious disease has been before mentioned, under remitting and autumnal fevers. It is called by the sagacious Morton, the Spurious Remittent turned on the intestines ; and by Sydenham also, who, perhaps undeservedly, is panegyricized as a superior oracle, the Fever of the Season turned on the bowels. The general symptoms are, frequent stools with severe colick, gripes, and tenesmus, or urgency to exonerate the intestines : these evacuations are slimy, generally with intermixture of blood, and fragments of feces concreted into hard globules, and unusually fetid. It is also accompanied with sickness at the stomach and pain, inappetency, vomiting, flatulence, restlessness, foul tongue, and more or less fever. When fatal, many are destroyed between the seventh and twentieth days ; but when moderate, it may be protracted much longer. Relapses
are

are frequent on any irregularity or intemperance. The *causes*, warm climates and seasons, marshy effluvia; cold nights followed by warm days; sudden suppression of perspiration, especially in warm climates; exposure to cold and moist air and rains, and wet cloaths and beds; long continuance of sultry and dry weather; excess and corruption of bile; symptomatick; dysenterick contagion from privies, beds, &c. — *Vid.* REMITTENT FEVERS.

Diarrhœa, ventris profluvium; including the different species, the celiaca, lienteria, morbus hepaticus, niger, atrabilis. In the simple diarrhœa, the evacuation by the anus is unuaturally frequent and liquid. In the celiaca, or chylous diarrhœa, the aliments and chyle are ejected: and in the lienteria, like a bucket whirling into a well, food is no sooner taken than discharged. The morbus hepaticus is without pain or tenesmus, with flux of blood and serum, or like ink; in colour and consistence various. Diarrhœa is accompanied with gripes; but not so excruciating as in the dysentery, with inappetency, dry skin, thirst, hectic heat: but no considerable fe-

ver ; nor is it contagious. In the feverity and evacuation there are varieties : and in some cases it is salutary. The *causes*, excess of food and drink, or acrid putrescent aliment ; new fermented liquors ; vegetable laxative food ; feculence in the intestines, stercorous, pituitous ; vitiated digestion, with morbid irritability of the intestinal tube ; irritability of this muscular canal, and increase of its peristaltic motion ; atonia ; excess and acrimony of bile, warm climates, broken constitutions, cachexy, chronic dysentery, immoderate flux of humours to the intestinal tube, and exhalation by the arterial extremities of that canal ; suppression of perspiration, and of other evacuations ; superfluity of ferous humours ; impediments in the absorption and passages of the chyle ; obstruction in the vena portarum ; laxity of the pylorus ; palsy of the sphincter ani ; ulcers of the stomach, repelled gout, and rash ; sudden passions of mind ; nervous irritation ; erosion or rupture of the blood-vessels on the interior surface ; obstruction of the spleen ; acrid dissolution of the blood ; colliquative ; worms ; symptomatic in fevers ; purgatives ; poisons. In infancy, acidity, dentition, and saliva

saliva swallowed to excess; corrupted milk and chyle, thin laxative vegetable diet; errors of the nurse in diet; gravel in the kidneys.

Colick. From slight or serious attacks of this torture, few of the community are exempted. We here associate together the inflammatory, spasmodic, saturnine, bilious, flatulent, the infantile colick, and other species. Colick is generally a temporary disease; and with which some, much more than others, are afflicted at intervals. Inflammation of the intestines ileus, volvulus, enteritis; generally sudden assault of excruciating, fixed, and increasing pain, in some degree affecting the whole abdomen, but more pungent about the navel; with nausea, frequent vomiting of food and drink, and sometimes of intestinal feculence; obstinate costiveness, severe gripes, eructation, flatulence: the fever sometimes succeeding, sometimes preceding, the local pain; and of which there are exacerbations and remissions, and various gradations. The pulse at the beginning is not remarkably full nor frequent, from which fatal mistakes and irremediable

T 3 procrastination,

procrastination, have often ensued in medical practice : the urine is in small quantity, or suppressed. It is much more frequent in the narrow than the wide part of the intestinal tube. In the rectum, constant tenesmus, excretion of mucus; and in the male sex stranguy are natural consequences and symptoms. Inflammation or nephritick paroxisms in the kidneys and ureters, with which it has been confounded, are hereafter discriminated.

It is extremely dangerous and precipitate ; frequently destroying in a few days, sometimes in one day, and is seldom protracted beyond nine. There is less danger in young than in old persons : abatement of pain, cessation of nausea and vomiting, discharge of flatulence and of feces, softer and freer pulse, are favourable symptoms : unfavourable are, unconquerable costiveness, immoderate vomiting, tumid belly, eructation, hiccup, cold extremities, gangrene ; abscesses rarely. Inflammation is sometimes the effect, and not the original cause of colick.

Under

Under the spasmodick colick may be classed the colica pictonum, saturnina, plumbeia, and dry belly-ach of the West Indies. The symptoms, writhing pain in the abdomen, about the loins and back; retraction of the navel towards the spine, dysury, ischury, or strangury; costiveness with difficulty removed, and the feces in conglobated lumps, vomiting, anxiety, depression of spirits. In the saturnine the countenance is sometimes of a leaden colour, and there is a saccharine taste on the tongue. This infests various classes of artificers: sometimes terminating in chronic colick, in palsy of the lower extremities, and in convulsions.

Bilious colick is accompanied with severe pain in the stomach and intestines, nausea, sickness, vomiting of bile, costiveness, bitter taste on the tongue, anxiety, dejection of spirits, dysury, often flatulence. Its duration is short, but it is prone to return on any intemperance or irregularity; sometimes it ends in jaundice. Flatulent colick is distinguished by the pain being mombile, without much nausea or vomiting, or hard pulse and thirst, or fever; by considerable un-

ual distention of the abdomen, and flatulent explosion upwards and downwards; and sometimes efforts to vomit until the flatulence is ejected: respiration is also more or less interrupted.

The infant colick is very frequent, and infinitely more fatal in those years than the London bills represent. Infants scream lamentably, and cannot be appeased; they contract and draw up their legs to the belly, are restless, sometimes costive; but often there is concomitant diarrhœa and green feces, vomiting, flatulent explosion; and sometimes the breath smells sour; in some the urine is suppressed; and many die convulsed.

The predisposing and occasional *causes* of colick, inflammatory, spasmodick, bilious, and of most other species are, acrid matter of aliment, medicines, poisons; acrid putrid bile; obstruction of the intestinal tube by indurated feculence, hair-balls, cherry-stones, calculi, steatome, volvulus, intussusception, contraction of the intestines in some part; scirrhus, cancer, severe colick, spasm, ruptures;

tures; wounds of the intestines; the aliments, pickles, condiments, and luxuries of the table, cooked, prepared, or preserved in lead or copper vessels not well tinned; the lead corroded from clayed vessels used for domestic purposes; wine adulterated with lead; cyder pressed in leaden cisterns; effluvia of lead to which painters and some metallurgists are exposed; excess or acrimony of bile; broken constitutions in tropical climates; acrid chyle; particular food or drink; new fermented liquors; sudden suppression of perspiration; cold wet feet; sudden passions of mind; flatulence and elastic air pent up; muscular and nervous spasms; plethora menstrual, lacteal, hemorrhoidal, scorbutick, rheumatick, arthritick, hysterick, nephritick; calculi in the biliary ducts; epidemick; aneurism of the aorta; turgid gall-bladder; spasm in the abdominal muscles, violent vomiting. In infancy, corrupted meconium, crudity, and sour or adulterated milk; suction to excess; acrid bile; the mother or nurse fasting too long before the infant sucks; corrupted unwholesome milk of nurses; nurses addicted to passion, to dram-drinking; insufficient

sufficient exercise of the infant ; tight rollers round its abdomen ; dentition ; worms.

Gall-Stones, calculi cystici. We have no account of this disease in ancient records. Until the beginning of the present century, it had escaped the vigilance of medical observation. But it is now known, that biliary concretions are, perhaps, not less frequent than those in the urinary organs. Gall-stones infest more the adult, old, and sedentary ; and it is alledged, more females than males. The symptoms at first are dubious, and are all to be weighed together in forming a diagnostick. In attempting to descend throughout the gall-ducts, they excite direful pain at the pit of the stomach and hepatick region, darting to the back, with restlessness, anxiety, dyspnœa, jaundice-colour of the eyes, costiveness, and commonly vomiting : the pain is aggravated by coughing or sneezing, and sometimes ascends to the right shoulder and arm ; but the pulse and circulation are not accelerated.

In the expulsion of these calculi, there are usually reiterated paroxisms, or exacerbations

tions and remissions of pain. The continuance of the paroxysms is from a few hours to days, weeks, or even months; but the latter is rare; during which period either no stone is discharged, or one or many stones are successively protruded. Their immediate expulsion is accompanied with a sensation, as of something bursting in that part, or of a fluid rushing into the intestines; and often some tenderness is there left behind. The calculi vary in shape, colour, consistence, and size; from a pea to a walnut, and from one to dozens and scores. It is generally a tedious and chronic disease, and may continue many years; often thro' life. It is seldom immediately dangerous, unless, as in nephritis, inflammation is kindled, or during pregnancy. When chronic and inveterate, it may terminate in jaundice, cachexy, dropsy. The symptoms of calculi in the gall-bladder are obscure; such as weight, uneasiness, dull heavy pain at intervals, sometimes temporary jaundice, cachexy, and diseases of the stomach. The *causes*, hereditary, viscid, tenacious bile, sedentary life, depressing passions, spirituous liquors; often ambiguous.

Whether

Whether any calculous concretions are formed in the pancreatick duct, is yet unexplored by authors. The pancreatick fluid is nearly similar to the saliva, which separates a tartarous sediment on the teeth.

Jaundice, icterus, morbus regius. Some of the eastern nations have naturally this complexion. The mortality by jaundice is not inconsiderable, amounting in the London bills, in the last thirty years of the preceding century, to 2169; and in the present century is doubled. The symptoms, heaviness and aversion to motion, itching and dryness of the skin, yellowness of the tunica-conjunctiva of the eyes, and also of the skin; the urine of a saffron-colour, and tinging linen; objects appear yellow; there is thirst, bitter taste in the tongue, bitter and yellow saliva, inappetency, indigestion, costiveness, and frequently pale-coloured feces. Sometimes, though very rarely, jaundice is local and not general. Jaundice may be critical, symptomatick, idiopathick, periodick, chronick. From gall-stones it is generally periodical; and such are prone to relapses. The prognosticks are more favourable with
natural

natural sweats; in recent than in chronic; in youth than in old age; in robust than in weak persons; in yellow than mulatto tinge; and when not complicated with other dangerous diseases, especially dropsy. Its duration and termination is various; from a few days to weeks, and months.

The predisposing and occasional *causes* are, sand, mucus, or inspissated bile in the biliary ducts, especially the ductus communis; tumors compressing the biliary ducts, or their concretion; scirrhus duodenum; spasmodic, and flatulent colick obstructing the intestinal orifice of the biliary ducts; violent passions of mind; strong emeticks or purgatives; sudden refrigeration of the body; hepatic obstruction and inflammation; languid circulation through the vena porta, sedentary life; warm climates and broken constitutions; excess of bile and re-absorption; cachexy; depraved state of the blood; symptomatick in some intermittent and remittent fevers, pregnancy, scurvy, obstructed spleen; venomous bites and stings. In infants, excess of bile and meconium, or distention of
the

the duodenum obstructing the biliary excretory.

Worms. In assigning an adequate share of mortality to worms, the London bills, probably, are defective. During the last thirty years of the preceding century, they are rated at only fourteen hundred; and continue decreasing throughout the present century. Perhaps a portion of verminous mortality is confounded with colick and gripes, or with hectic emaciation. Worms infest most in infancy and childhood; but seldom until after lactation; and then, probably, more of the children of the necessitous than of the affluent. The principal species of human worms are the rotunda, or lumbricalis, the tænia or lata, the cucurbitina, and the ascarides: these are again, but with superfluous subtilty, subdivided by nosologists. The rotunda or lumbricalis, has most resemblance to an earth-worm; it is forked at both ends, but paler: in length various, from inches to feet: and often many are entangled together in clusters. The tænia has some resemblance to tape, consisting of numerous joints, or coherent links, about

an inch or more distant, and often many yards in length: this is most frequent in the adult age. The ascarides are extremely numerous, active, and minute, like fine needles, or the cuttings of white thread; and generally burrow in the lower extremity of the intestinal tube of children: the former species wallow through all parts of the alimentary canal.

Verminous symptoms are numerous, various, and all extremely ambiguous, unless worms are discharged with the feces: feculence in the stomach and intestines may occasion all the other symptoms: such as pale countenance; fugaceous flushing of the face and cheeks, and circumscribed spots of redness; itching of the nose; swelling of the upper lip and nose, and lower eye-lids; dilatation of the pupil; grinding of the teeth; fetid breath, and eructation; flow of saliva; irregular, impaired, or voracious appetite, nausea, vomiting, colick, gripes and sudden screams from the violence of pain; tumid and enlarged belly; costiveness, or diarrhoea and fetid stools; the urine sometimes like milk; sudden startings in sleep, frightful dreams;

dreams ; palpitation of the heart ; dry hectic cough, atrophy ; various nervous symptoms, epilepsy, tetanus, convulsions. The ascarides excite irritation about the anus, tenesmus, and dysury. These intestinal insects are often most tormenting when the stomach and intestines are empty. Sometimes they excite a symptomatick and slow fever, with hot skin, quick pulse, thirst ; and the children are then confined to bed. But without fever, children pursue their usual amusements. The *causes*, improper diet for these years, as cheese, farinaceous, legumens, fruits, saccharine, putrid diet or unwholesome aliment, hereditary weak constitution, moist air : the ova of the insects swallowed with the air, food, or drink.

Hemorrhoides, piles. Is a frequent and very universal disease in both sexes, and most so during the adult stages and decline of life ; and by which the lives of many are incommoded and harassed. They are distinguished into the blind and open, the external and internal ; and are temporary, periodical, and chronic. The blind piles denote small imperforated lumps and tumors
about

about the margin of the anus. Sometimes the tumours and hemorrhage from the anus ensue without any previous disease of the body; but generally some antecedent or accompanying disorder is felt; such as vertigo, headach, pain of the back and loins, oppression in the breast, colick, dysury, some fever and heat. The approaching hemorrhage is with sense of fulness, heat, itching, and pain about the anus, with tenesmus, costiveness, and conglobated feces; and sometimes is preceded by a serous discharge, or this sometimes is substituted for red blood. The quantity of sanguineous extravasation is various in different persons, and in the same person at different periods: from the internal vessels of the rectum it is more profuse than from the external; and is generally during, or after the fecal discharge: in other cases it is without fecal efforts, and then in larger debilitating streams, but rarely immediately fatal. These tumors, or sanguinous torrents, are almost always periodical, and at various intervals. They are often salutary, if moderate, especially if bad health preceded; and also as preservatives. In the decline of life, when the hemorrhoidal flux has been frequent, but suddenly ceases, they are in danger of

U apoplexy

apoplexy or palsy. On the other hand, in excess, it may exhaust the body, injure the health, and terminate in dropsy or consumption. Or sometimes hemorrhoidal tumours inflame, suppurate, and form fistulas in ano.

The predisposing and occasional *causes* hereditary; plethora, dense blood, luxurious living, indolence and stimulating diet; intemperance, especially in spirituous liquors; dried indigestible diet; suppression of the menses, and their final cessation, and of other critical evacuations; obstructions of the liver, spleen, of the mesenteric and hemorrhoidal veins; reiterated and severe colick; abrasion of the intestinal mucus; acrid purges; acrimony of the blood; costiveness, and hardened feces; worms; sitting too long on the necessary, and over-warm steams, or stoves; long sitting, riding, and compression of the hemorrhoidal veins; diseases of the vagina, womb, and neck of the bladder; prolapsus ani; pregnancy; rupture of the extremities of the iliac arteries; effusion of blood into the cellular texture of the intestines, near its extremity.

Vomiting

Vomiting of Blood, hematomosis, vomitus cruentus, is a very rare disease. It is said to be more frequent in females than males; and is an adult malady. The symptoms, weight, straitness, and anxiety at the region of the stomach; nausea, cardialgy, efforts to vomit, and discharge of blood without coughing: the colour depends upon the time it has lain in the stomach, and is with various intermixtures of food, bile, pituita: there is also great prostration of strength, and proneness to faint. The quantity of this extravasation is various, from ounces to pounds; and frequently some portion descends by the anus. It is extremely dangerous, either immediately, or in its consequences. If with fever and great force in the discharge, it may destroy in a few paroxysms; or if chronic, may end in dropsy, consumption, or diseases of the stomach and intestines. Slight eruptions have relieved chronic maladies of the liver and spleen, hypochondriacism, hystericks, and intermittents. From obstructed menses it is much less alarming. The *causes*, obstructions of the liver, spleen, menses, hemorrhoids; scirrhus of the stomach and liver, or spleen; suppression of

habitual discharges or evacuations, or old ulcers; dregs of intermittent fevers; scorbutick; acrids and poisons swallowed, and violent efforts to vomit; worms; violent passions; external injuries.

Poisons. By poisons conveyed through the mouth or wounds, very few of the community are destroyed. The ancient Asiatics, Greeks, and Romans, were infected with the silly infatuation and apprehension of constantly swallowing poison in their aliment. This was not an epidemical error of the rabble, but had spread amongst their emperors and philosophers: hence the pompous and absurd compositions of mithridate, theriac, and other poisonous antidotes. None of the two hundred genera of the quadruped creation, nor of birds, are poisonous; and very few of the fish, or of the numerous insects and reptiles. Out of the many thousand genera of the vegetable creation, the poisonous are comparatively trifling: such are the napelli, apocyna, stramonium, solanum, laurus, aconitum, manchinell, cicuta, opium, and a few others; some of which, however, are powerful remedies. Of the mineral, the
metals

metals and semi-metals, arsenick excepted, the preparations of lead, copper, and mercury, are also amongst the potent remedies.

Of poisons, some corrode or burn, others are septic; and by far the greatest number attack the vital principle, by either violent irritation or torpidity: some have a more deadly malignity than others, and are more speedily destructive. Most of the vegetable poisons excite narcotic, stupifying, vertiginous, lethargic, convulsive, and emetic symptoms, affecting the brain, external senses, heart, and stomach. The minerals, as arsenick and corrosive sublimite, excite symptoms of inflammation in the stomach, in the most violent degree; and both copper and lead of spasmodic colick also. From their readier solution in the stomach, the vegetable poisons, except by the symptoms, can rarely be subjected to ocular detection; but by certain chymical analysis, when in any considerable quantity, the mineral may be discovered. Arsenick has a milky whiteness, is gritty and insipid; part of it swims in water, like a pale film, the greatest part sinking to the bottom undissolved; thrown on

a red-hot iron plate, it does not flame, but rises in thick white fumes, which have an offensive smell of garlick, and cover cold iron held over them with thick flowers: arsenick inclosed between two plates of copper, then put into the fire and made red-hot, changes copper white. Copper is soluble in all acids, and assumes a blue colour when corroded by any acid or saline substance. Preparations of lead have a peculiar sweet taste; and wine adulterated with lead is detected by any alkali, which renders the mixture turbid, and precipitates the metal. These observations are a part of medical jurisprudence; and we shall hereafter touch upon it, under Female Abortion, and External Violence, especially injuries of the head.

Hydrophobia. This disease may be classed with the mental, or with poisons, and spasmodic affections of the superior part of the alimentary canal. There are very few instances of this disease in Britain: it is, notwithstanding, one of the modern hobgoblins, in which we rival the folly of the ancients respecting alimentary poisons.

It

It should first be indisputably ascertained whether the dog, or other animal, was mad or not: we have a thousand false alarms, forgeries, and falsehoods in this respect. Dogs, especially puppies, are subject to periodical short fits, in which they run about as if mad, barking incessantly, and with a querulous angry voice. The symptoms of a mad dog, as described by authors, are, he suddenly becomes mopeish, peevish, and morose; has an aversion to food and drink; an unusual look about his eyes; he runs about disorderly, forgets his master; his voice changes to a shrill bark; he suffers no one to approach, or to handle him, but bites at those who attempt it; he deserts his own habitation, running with his head and tail drooping; the tongue hangs out of his mouth, covered with foam and flaver; other dogs fly from him with horror; he attempts to bite all who fall in his way; he flies from water and rivers, and at length falls down exhausted, and dies on the third or fourth day after the first appearance of the disease. It is also agreed, that canine madness is more general in hot climates, and in the hottest summers of northern. But un-

fortunately hitherto, in most cases, probably nineteen out of twenty, the mania of dogs has not been incontrovertibly decided; as in cases even at the commencement, when it is very dubious, dogs are very improperly and impolitickly destroyed, instead of being confined in a place of security, to observe whether the poison is fermenting in them. Hence, probably, much ideal terror and horror; and boasted, though impotent, virtues of many vulgar nostrums, panaceas, and antidotes.

In the human species, *Hydrophobia*, *phrenitis latrans*, *rabies canina*, *aquæ fugax*, is described, for I never saw an instance of it, in the following progressive train of symptoms; some days or weeks after the bite and wound, heaviness, lassitude, disturbed sleep, frightful dreams, restlessness, melancholy, pain in the wounded part; exacerbation during the phases and changes of the moon; aversion to food and drink, pain in the throat, difficulty or impracticability of swallowing, fluids especially; and horror, or even convulsions, at the sight of any fluid; in some, delirium; in others, the senses perfect. There are some instances of recovery

very in the stages of hydrophobia. The diseases from other venomous bites and stings are transferred to the future class of external accidents.

P. S. In the preceding group of diseases may be included two, which I had no opportunity to introduce sooner : these are costiveness, and nasal hemorrhage. Costiveness, it is true, is frequently symptomatic in many diseases, but is also idiopathic ; and the suppression of this excretory during several days, occasions vertigo, headach, disturbed sleep, inappetency, indigestion, flatulence, colick, &c. The *causes*, obstruction or constriction of the intestinal tube ; faults in its muscular fibres, diminution of irritability by age or disease ; defect of mucus, bile, especially cystic bile, its inertness ; costive food and drink, and medicines ; too little drink ; excessive discharge, by perspiration or urine ; indolence, and hard feces. Nasal hemorrhage predominates principally in the adolescent age, and towards puberty and manhood, and more amongst the male sex : the hemorrhage is generally periodical at irregular intervals, usually from one nostril, and slight, or in torrents : and there are instances on record of
many

many quarts of blood being discharged within a few days. After puberty it commonly abates, and some years later ceases. The hemorrhage is very seldom immediately fatal; and more dangerous diseases have followed its rash suppression. The causes will be comprehended from those of hemorrhages in general.

DISEASES of the Urinary Organs. We shall begin with the diseases of the first urinary strainer, the kidneys, descending progressively through the conduits and reservoir, the ureters, bladder, and urethra. During the last 30 years of the preceding century, those marked in the mortal catalogue of London as cut of the stone, gravel, and strangury, are only 1796; and at present the mortality is more inconsiderable; and perhaps, in some degree, maybe accounted for by modern improvements in the cure of the venereal disease, and in the operation of lithotomy; for as to lithontripticks, we are as yet as ignorant as of the philosopher's stone. From Dr. Dobson's

son's Treatise it appears, that out of 192,394 sick of various diseases, medical and surgical, in different county hospitals, throughout England, 430 of these underwent the operation of lithotomy. Some countries more than others, are obnoxious to calculous concretions; which have been variously imputed to air, food, drink, and water. Gravel and sand in the urinary organs is a frequent complaint, to which infancy and childhood are by no means such martyrs as adults, those especially in the decline of life: but from the shortness and width of the female urethra, they are preserved freer from calculi in the bladder than the male sex. Diseases of the urinary organs have been often described by authors under three general heads; Ischury, Dysury, and Strangury. Ischuria means a total suppression of urine; and from the seat of the disease is called renalis, uretoria, vesicalis: Dysury is only a slighter degree of the former: Strangury, a constant irritation to urine, in small quantity, and often with tenesmus.

Inflammation and Calculi of the Kidneys, nephritis, nephralgia: and generally confined to one kidney. The symptoms, shivering
ing

ing, fever, acute pains and heat in the lumbar region, following the tract of the ureters, and various in severity, from calculi excruciating; frequent efforts to micturition; the urine in small quantity, red, bloody, hot, often intermixed with sand, sometimes totally suppressed; with colick, flatulence, bilious vomiting, costiveness. When the disease is severe, and from calculi, there is stupor of the leg of the same side, and pains in the groin and male testicle, and often retraction of the latter. There is also difficulty and pain in walking or erecting the body; but the rheumatick lumbago, with which it may be confounded, has no concomitant fever, nor disorder of the stomach; and has more intense pain on bending or erecting the body. It is always dangerous and precipitate, especially when the urine is suppressed, terminating within seven, or, the utmost, fourteen days, by discussion, supuration, gangrene, scirrhus: discussion indicated by a copious flow of urine and sweats.

But the most frequent malady about the fountain of the urinary secretion, is from calculi in the ureters. The kidneys have
few

few nerves, and therefore not very acute sensation. Calculi or gravel in the strainers of the kidneys, seldom excite much uneasiness until they are forced into the ureters by the current of urine, by exercise, exertions of the body, agitations of a coach, passions of mind, stimulating diet and drink: then they excite atrocious pain, like a stake driven into the back, which is exasperated by certain postures, by every motion of the body, and by a full stomach; together with all the other symptoms common to inflammation, except the fever; to which, however, and to inflammation calculi, often give birth. At the beginning the urine is limpid; afterwards it becomes turbid and fabulous. This is a chronic periodical disease, with intermissions and nephritic exacerbations at uncertain intervals. It is distinguishable from intestinal colick by the pain fixed in the loins, the urinary obstruction, stupor of the leg, and retraction of the testicle.

Inflammation and also Calculus of the Bladder. Of cystitis, the symptoms are acute burning pain in the region of the bladder and perineum, and extending to the loins; tumour,

tumour, tension, and hardness of the abdomen from the distended bladder, which may be felt between the pubis and navel; and sometimes is turgid to an enormous magnitude; perpetual painful efforts to urine and stool, and the urine either suppressed, or in small quantity; a finger introduced into the anus, or into the female vagina, feels the vesical tumour; or if the inflammation particularly fixes upon the neck of the bladder, the surgical catheter cannot, without immense difficulty, be introduced; and with all these symptoms, symptomatick fever, quick, hard, phlogistic pulse. It is very rapid and dangerous: total suppression within a very few days excites burning fever, lethargy, delirium, convulsions, gangrene: or even after recovery from a violent disease, incontinence of urine may remain for a considerable time.

Of calculus, or stone in the bladder, the symptoms are all dubious, without sounding the bladder with the surgical instrument. It is a chronic disease, slow in accumulation; and is frequently endured many years, without having recourse to lithotomy. The symptoms vary in severity, and recur in exacerbations

tions at uncertain intervals ; such are frequent irritation to urine, and difficulty in the evacuation ; strangury, tenesmus, pain, and titillation of the glans of the penis, and the urethra, especially after making water ; itching of the genitals ; sometimes bloody urine after riding, or exercise. If the stone is large, there is a sensation of weight in the region of the pubis and perineum ; sudden stoppage of the urine during micturition ; sometimes necessity of kneeling, and of a prone posture in endeavouring to evacuate the bladder. A finger introduced into the anus, will sometimes feel the stone ; but the sound is the only certain criterion. The size, shape, and number of stones are various : often only one, but sometimes several are extracted by lithotomy. Internal incrustations, and also scirrhus of the bladder, or even internal hemorrhoides, have imposed on medical judgment as cystic calculi.

Inflammation and obstruction of the urethra cannot be thoroughly investigated, without a description of the venereal disease, to which we have not yet arrived ; but which there

there could be no impropriety to introduce amongst this group.

The predisposing and occasional *causes* of urinary suppression, obstruction, and stranguery, whether originating in the kidneys, ureters, bladder, or urethra, are inflammation of the kidney or ureter, calculi or sand in the kidneys or ureters; acrid diureticks; spirituous liquors; plethora, spasm, poisons, severe riding, violent heat and muscular exercise; strains of the lumbar and dorsal muscles; long continued posture in a bent position or supine on the back; inactive sedentary life; wounds, contusions, abscesses; defecation and crisis of other diseases by the kidneys; scirrhus, incysted, dropical, paralytick kidney; gout; inflammation of the bladder or its sphincter, stone in the bladder; the urine too long retained in the bladder, by which it becomes violently stretched, and paralytic; hernia of the bladder; obstructions in the neck of the bladder, or in the urethra; varicous blood vessels; the prostrate glands or seminal vesicles scirrhus, or enlarged; inflammation, caruncles, and stricture in the urethra; the corpus cavernosum thickened;

thickened ; contiguous diseases of the anus, vagina, and womb ; hardened feces, hemorrhoides, wounds of the rectum, fistula ; ulcers of the womb, obstructed menses, or their retention in the vagina ; pregnancy ; ulcers and worms in the kidneys, bladder, or urethra, and excretion of acrid pus or membranes, by urine ; grumous, extravasated blood in the bladder and urethra ; inspissated semen after coition ; excess of venery ; too acute sensibility of the urethra, defect of mucus ; acrid urine ; tartarous and astringent wine or drink, food, or medicines ; stimulating food and drink ; frequent ebriety ; terrestrious water ; sudden refrigeration of the body ; contusion ; old age ; plethora ; lunar, venereal, rheumatick, arthritick, hysterick, scorbutick, dropsy, violent colick, retraction and shrinking of the penis.

Incontinence of Urine, and also Diabetes.

Of incontinence, or eneuresis, authors make three species ; one involuntary, without sense or effort ; the second involuntary, but with a knowledge of its excretion ; the third involuntary, during sleep. The Diabetes was unnoticed in the London bills until the present

century ; and perhaps its trifling depredations were thrown amongst consumptions. It denotes a chronic discharge of urine beyond the natural quantity, and sometimes exceeding in weight all the fluids and solids taken by aliment : it is generally clear and colourless, but sometimes white and chylous, or unctuous, or, like honey dissolved in water, a yellowish green, and tastes sweet like honey : there is unquenchable thirst, intense heat, slow hectic and emaciation, pain in the loins ; increased flow of saliva, voraciousness, or inappetency. It often invades by slow and imperceptible steps, and without any other disorder, until, by long continuance, emaciation is visible, with debility and obscure fever. It is sometimes periodical, and in hystericks symptomatic.

The predisposing and occasional *causes* of incontinence of urine are, palsy of the sphincter of the bladder, from either too great dilatation and accumulation of urine, or from violent efforts in parturition ; debility, old age ; excess of venery ; fistula, abscess, ulcers, lithotomy, stone, spasm, gout, apoplexy, palsy, external injuries. Also, copious, watery, acrid urine : the bladder irritable from inflammation,

tion, ulcers, excoriation, defect of mucus; spasm, relaxation of the sphincter; weakness of the sphincter ani, and accelerator muscles; pregnancy, laborious parturition; compression and irritation of the bladder; habit. — Of diabetes, aqueous tenuity, and also acrimony of the blood; weakness, laxity of the kidneys and renal vessels; the crassamentum of the blood not cohering with the serum; faults in the assimilation of the nutriment, and sanguification; excess of watery drink and ebriety; diureticks; sudden refrigeration of the body, and suppression of perspiration; unusual determination of blood and serum to the kidneys; excess of venery; increase of cutaneous absorption; obstructions of the abdominal viscera; spasm; nervous; habit: often unknown.

Ulcers in the Kidneys and Bladder, and Bloody Urine. Of ulcers in the kidneys, thick fetid urine, sometimes with mouldered fragments of the kidneys; heat and weight in the loins; hectic emaciation, stupor of the leg, and some other symptoms of nephritis. It is tedious and dangerous. Of ulcer in the bladder, pain in the pelvis and perineum, exasperated

at intervals; heat, strangury, dysury; the urine fetid with intermixtures of pus, mucus, and blood; sometimes the rectum also is eroded. Of bloody urine, or hematuria from the kidneys, ureters, bladder, seminal vesicles, or urethra. From the kidneys the hemorrhage is sometimes profuse, and the blood of various colours, according to its solution and stagnation in the bladder; and sometimes coagulated, takes the mould of the urethra: the urine tinges linen dipped into it of a red colour, and the blood is coagulable by heat. There are instances of its periodical flow, like the menses. The predisposing and occasional causes of urinary hemorrhage are the general causes of hemorrhages; calculi in the kidneys or bladder; falls, blows on the loins; violent exertion of the lumbar muscles, riding, exercise; venery; plethora; obstructed evacuations, hemorrhoids, menses; hemorrhoids of the bladder and varicous veins; acrid diuretics; ulcers, symptomatick in scurvy; putrid small pox, and malignant fever.

DROPSY.

DROPSY. During the last thirty years of the preceding century, Dropsy and Tympany amount to 23,366. In the present century, dropsy makes about one twentieth share in the London funerals. It has been alledged, that more women die of this internal deluge than men ; and, according to Sydenham, more of the former at the final menstrual ebb, than at any other period. But, so far as my reading extends, neither the age, sex, mortality absolute or comparative, have to this day been decided from facts or numbers ; but rather principally in the mode of tradition, and aphorisms of individual oracles. I therefore, through my learned friend, Dr. Sims, procured the registers of diseases in the Aldersgate Dispensary of London, which is accessible to all ages and diseases, and to both sexes : the result of this scrutiny is as follows : — Out of 70,000, during seventeen years, from 1770 to 1788, the dropfical amounted to rather more than one twentieth part of the whole maladies ; that is, to 1,188 : of which number,

ber, I find there were of males, 439; females, 749; cured, 674; relieved, 56; discharged or not accounted for, 275; dead, 186. Of these their fundry ages were, from birth to the 10th year, 106; from 10 to 20, 53; from 20 to 30, 112; from 30 to 40, 249; from 40 to 50, 321; from 50 to 60, 209; from 60 to 70, 110; from 70 to 80, 23; from 80 to 90, 9. Total, 1,188. These include every genus and species of dropsy, the hydrocephalus and hydrocele; neither of which were numerous: and the former principally fatal to children under ten years of age. Anasarca was the most frequent genus; and next to that, Ascites. Besides, all cases of anasarca and œdematous legs were ranged in this dropfical group; nor was it possible to form an estimate of the genera separately, as the word Hydrops was often indefinitely used.

From these data we may draw the following conclusions: That dropsy is more inimical to the female than to the male sex: but at the same time it must be recollected, that in London, and other cities, the women are considerably more numerous; which
somewhat

somewhat detracts from the comparative excess in them of dropfical mortality. For reasons, which medical men of experience will anticipate, we may add to the dropfical dead list some of the relieved, discharged, and not accounted for. It appears, therefore, that, under skilful medical treatment, rather more than one half of dropfies, promiscuously, were cured; that about one third or fourth died; that dropfical ravages are principally amongst adults; for notwithstanding that one half of the community are under twenty years of age, yet but a small portion of these are dropfical. It is chiefly against adults, and those in the decline of life, that dropfy prowls with slow and fullen destruction; and is, as 8 to 1, more fatal after twenty, than before that period. We may here also observe, that, by retrospection to a former proposition, a sort of medical geometry and trigonometry, a gross estimate may be formed from the deaths, of the number of dropfical in a community.

Dropfy in the Brain and Spine, hydrocephalus, and spina bifida, is most frequent in infancy and childhood; but is often very

difficult to detect, and the symptoms at the beginning are dubious. The most usual symptoms are loss of appetite, strength, spirits, flesh; fixed pain in the head and eye-brows, drowsiness or restlessness, heaviness, stupidity; pale countenance and tongue; obscure or double vision, dilated pupil, insensibility of the retina, even when exposed to the darting rays of the sun, or of a candle; the hand often applied to the head; irregular pulse; vomiting. It is commonly slow in increase; from months to a year, or more. It is seldom cured; and the fatal termination frequently palsy and convulsions. The external hydrocephalus, or local anasarca, is soft and elastic to the touch, and the enlargement visible. The spinal dropsy is sometimes complicated with hydrocephalus; in it a tumour turgid with fluid, the size of a chestnut, or larger, is protruded from the opening in the lumbar vertebræ of infants.

Dropsy of the Thorax, hydrops pectoris, and pericardii: in one or both sacs of the pleura, or in the pericardium; or in the pulmonic cellular texture. This is much less frequent than the abdominal; and is often very difficult

cult in the early stages to be detected, as the same, or nearly similar symptoms, occur in some other diseases of the breast: such are difficult and laborious respiration, especially on any exercise or motion, or in a horizontal posture, and gradually increasing; frequent cough, at first dry, but after some time, with mucous expectoration; weight and oppression in the breast; disturbed sleep, and sudden startings, with anxiety and dyspnoea; necessity of an erect posture; palpitation of the heart, and irregular pulse: there is also commonly scantiness of urine, oedematous tumour of the feet and ancles; a pasty paleness of the face; and sometimes a fluctuation of water in the thorax is perceptible to the patient.

Sometimes it is circumscribed and local; at other times, it begins by anasarca, and is complicated with universal dropy of the other cavities, or with asthma; sometimes it consists of hydatides. It is distinguishable from the empyema, and from the polypus and aneurism of the large vessels, by the symptoms peculiar to each. After some fevers, thoracic dropy has formed with surprizing rapidity

rapidity in one or two days. The fatal event is often preceded by spitting of blood, anxiety, and accelerated respiration. In the dropfy of the capsula of the heart, the pericardium, there is difficulty of respiration, and of laying on the left side; quick, weak, intermittent pulse, palpitation of the heart, syncope, dry cough; anasaruous ancles, scantiness of urine: and sometimes a sensation of fluctuation during the motion of the heart. In dropfy of the mediastinum, the symptoms are conjectural.

Abdominal Dropfy, including the ascites, the dropfy of the ovaria, fallopian tubes, and womb. The ascites, or exudation between the peritoneum, intestines, and viscera, is much more frequent than the hydrothorax. The symptoms are enlargement and prominence of the belly; sense of fluctuation to the fingers and ears on striking it with one hand, and applying the other to the opposite side; the urine scanty, turbid, and high-coloured; costiveness; the thirst at the beginning is inconsiderable, but generally becomes irksome and insatiable; the skin dry; the body sluggish, and increased in weight: the countenance

countenance becomes squalid, fallow, and unwholesome; the upper part of the body and arms emaciated, and, sooner or later, the ancles œdematous. Where there is a large accumulation of water the diaphragm is impeded, with difficulty of respiration and dry cough, particularly in a horizontal posture. The serous transudation is the general form of ascites; but sometimes it is of a gelatinous consistence, and more of coagulable lymph from the blood, and the fluctuation not perceptible: in other cases it is inclosed in numerous morbid cysts, called hydatides; which cannot be known to a certainty until after the experiment of tapping. It may, however, be suspected, where there is no general cachexy, dropsy, thirst, or scantiness of urine; where the appetite and sleep are natural, and the tumour has begun in one part of the abdomen.

Some survive many years under ascites, and after reiterated evacuations by tapping; on the whole, often amounting to several hogheads of water. In others, there are instances of accumulation so extraordinary, sudden, and profuse, as to render it necessary
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to be drawn off repeatedly in the short interval of a few weeks. It occurs either singly, or as a part of universal dropfy. Ascites encysted ; from broken constitutions ; unsound viscera ; the consequence of other diseases ; chronic ; with decay of appetite ; with urine considerably disproportioned to the drink, are all species unfavourable, some desperate. But in the most deplorable stages, patients entertain some hopes of recovery.

Dropfy of the Ovaria, fallopian tubes, and womb, are female, and not unfrequent maladies. It is rarely that both ovaria are affected. The disease begins with a soft tumour at one side of the abdomen, generally increasing by slow gradations, and at length sometimes to an enormous size and weight, so as to distend the whole abdomen : it is accompanied with several ascitic symptoms, and with pain about the pubis and loins ; but the fluctuation is imperceptible, or obscure ; and the extravasation is often encysted and gelatinous. That in the fallopian tubes requires no particular description after the preceding, which it so nearly resembles. Both are often incurable. Dropfy of the
womb

womb is a very rare disease : it has been described as occurring either in the pregnant or unimpregnated state ; and in the latter case, as contained within the cavity of the womb, or between the fetal membranes and the womb ; or within the layers of the membranes. I cannot find an author to satisfy my doubts respecting the accurate diagnosis of this disease ; and therefore shall not copy what I distrust.

Dropfy of the Cellular Membrane, externally, in the cellular texture under the skin ; the species anasarca, leucophlegmatia, œdema. It generally appears first in the lower extremities, and there too only in the evening, disappearing by a horizontal posture in the night : at length, it reaches up, progressively, to the legs, thighs, trunk, and scrotum ; and in some instances, to the face, particularly in the mornings. The intumescence of the skin is pale and soft, and, on pressure of the finger, indents ; but is soon again filled up with water. As it increases to a universal anasarca, there is difficulty of breathing, particularly after exercise, scanty urine, thirst, decay of strength, slow hectic diminution

diminution of the natural heat, and more or less insensibility of the skin, which is dry. Sometimes the legs and thighs only are enlarged and distended to a monstrous magnitude; their skin bursts, ulcerates, or is irritated to erysipelatous inflammation. It is either complicated with ascites or hydrothorax, or beginning as œdema, and increasing to anasarca, it oozes through all the external cellular texture; and having inundated all the out-works, proceeds in drowning the vital organs.

Dropsy of the Scrotum, hydrocele. This is a local disease, confined to the male sex; and to which all ages are subject. There are two principal species; that between the vaginal coat and testicle, and that in the spermatic chord; and either collected in cysts, or dispersed through all the cellular membranes inclosing the spermatick vessels. In general, hydrocele is confined to one testicle, at the beginning is not painful, and neither diminishes nor disappears: it has usually a conical pyriform appearance, the large end downwards: sometimes it is very hard and incompressible; and when the membranes are much thickened, it is not transparent:

transparent : there is slow gradual accumulation of the fluid from below : it is incapable of reduction, or return into the abdomen through the rings : it is not affected by posture, cough, or sneezing of the patient : there is neither nausea, vomiting, quick pulse, nor is the fecal discharge interrupted. If the quantity of water is considerable, the testicle cannot be felt, at least not distinguished. In most cases the spermatick vessels may be felt at their exit, through the abdominal rings ; but sometimes the hydrocele tumour reaches up to the rings, and renders such cases puzzling to discriminate, as the spermatick chord is then concealed. Again, hydrocele of the spermatick chord has been mistaken for rupture, from its ascension to the rings : this species feels like a distended bladder.

Hydrocele has not only been mistaken for rupture, but also for scirrhus testicle, and venereal induration. Indurated and scirrhus testicle is rounder, harder, painful, and the spermatic chord distinguishable at the rings : it has, however, frequently a quantity of extravasated and surrounding fluid. Besides,
scrotal

scrotal hydrocele and hernia, hydrocele and scirrhus testicle, hydrocele and encysted dropsey of the spermatic chord, have been seen combined. Some hydroceles are several years collecting: others are very suddenly formed, especially from extravasated blood, external injuries, violent muscular exertions; these likewise have been mistaken for ruptures. Hydroceles vary in the quantity of fluid and magnitude, containing from ounces to several quarts; some are enormous in size, reaching half-way down to the knees, and occasioning great load, and pain in the back. The colour of the extravasated fluid is also various; clear, limpid, pale, straw, yellow, grumous, dark, bloody. Many, from choice or necessity, are contented to drag on life, not chusing to risk what is termed the radical operation and cure; but merely by frequent repetitions of the scrotal puncture or palliative remedy. Sometimes the skin and cellular membrane of the scrotum, in inveterate hydrocele, is prodigiously thickened.

The predisposing and occasional *causes* of Dropsies, comprehending all the preceding genera, are in consequence of various acute
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and chronic distempers; broken constitutions, cachexy; intermittent, remittent, and scarlet fevers; repelled erysipelas; rickets; jaundice; biliary obstructions; suppression or repulsion of habitual or wholesome evacuations, as menses, hemorrhoids; general debility from various causes; atony of the sanguinous vessels, and of the exhalents, and transfusion of serum through them; excessive evacuations by hemorrhage, diarrhoea, perspiration, or other excretories; sudden and large draughts of cold water when the body is much heated, especially if not discharged by urine or sweat; excess of fluids, of spirituous liquors; languid circulation; sedentary life; watery trades; moist air; suppressed perspiration, and watery excretions; tenuity or impurity of the blood; tenacious adhesion and agglutination of the coagulable lymph; increase of serous fluid in the blood; diseases and also ruptures of the lacteals and lymphatics, and of the kidneys, ureters, and bladder; defect of lymphatic absorption; obstructed and scirrhus viscera, mesentery and lungs; asthma, polypi, ossified arteries, excessive fatness, and other causes intercepting the circulation of the blood:

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diseases

diseases of the stomach and digestive organs, and those of sanguification; laxity of the external subcutaneous cellular membrane; debility of the muscular solids and fibres, and of the tela cellulosa; hereditary; hydatides; violent muscular exertions, external injuries.

Tympany. There are two species; that where air is confined within the intestinal tube; the other, where it is extravasated between the intestines and peritoneum: this last species very rarely occurs, and only from an erosion or hole of the intestines. The symptoms of Tympanites are, tumour and tension of the abdomen, and compared to the stretched head of a drum, without fluctuation or thirst; and not altered by a change of posture, nor is the body increased in weight: there is inappetency, indigestion, colick pains, eructation, and explosion of fetid air by the mouth and anus; costiveness, fallow complexion; and, from the distension of the abdomen, difficulty in breathing: in the inveterate stages of the disease, ischury, dysury, emaciation, hectic, and atrophy. Its increase is generally quicker than ascites; it is also chronic, and contumacious to medicine.

dicine. Tympany of the womb is also mentioned by authors ; but is a very unusual occurrence : it is described by local heat, pain, tenesmus, tumour, discharge of fetid air. The *causes* of Tympanites are, atony and palsy of the intestinal tube ; excessive purging ; chronic colick, dysentery and diarrhoea, or their premature suppression ; suppression of the lochia or menses ; the consequence of rickets, intermittent fevers, asthma, hypochondriasis ; diseased abdominal viscera ; excess of pituita, or bile ; complicated with ascites, and the intestinal tube debilitated by soaking in water.

Excess of Fat, obesitas, polyfarcia ; including anasarca obesity, abdominal corpulency, and their complication. This is a frequent malady of adult age in this island. Those, unfortunately for themselves, thus stuffed and loaded with grease, are clumsy, unwieldy, inactive, lethargic ; on any exercise or motion, they are panting for breath ; and may be compared to cumbrous hulks. The *causes* hereditary ; laxity of the cellular membrane, or tela cellulosa ; esculent luxuries, sensual living, epicurism,

malt liquors, excess of oleaginous secretion from the blood.

My original intention was to have proceeded to the next group, as arranged in the medical catalogue: but whether we enter upon their discussion now or hereafter, is a matter of no moment. However modern nosologists may plume themselves on classification, it appears to me as attended with no difficulty, nor requiring any exertion of genius: we may with as much facility as shuffling a pack of cards, throw diseases into endless arrangements and associations.

FEMALE Diseases, including obstruction, chlorosis, profluvium menfium, fluor albus, hystericks. These derangements of the human machinery, which, from the days of Hippocrates, have been discriminated by specifick morbid names, are notwithstanding unnoticed in the London registers; unless perhaps rising of the lights, spleen, and

and vapours are substituted as a portion of hysterick mortality. This formidable phalanx, whose frequency and fatality are of universal notoriety, must be mustered amongst the chronic host of diseases. From about the period of puberty, seldom earlier, they begin to infest numbers of the female sex. On a careful perusal of nearly one half of the books of the Aldersgate Dispensary in London, and before mentioned, during six years, I found the total sick and diseased amounted to 29,511: by far the greater proportion of which were adults, and more females than males. Of this twenty-nine thousand, the numbers afflicted with different female complaints were as follow: Obstruct. mens. and chlorosis, 254; profluvium mens. 270; fluor albus, 446; hysteria, 1104; total, 2074. Here it is worthy of observation, that four only of the principal female infirmities constituted nearly one fourteenth part of all the diseases in that dispensary, which is open to afflicted patients of every description and age. I should, however, not omit to add, from the information of one of the learned physicians of that charity, that under Fluor Albus, a few cases of venereal

Y 3 gonorrhœa

gonorrhœa were concealed; and that under Hysteriæ, were arranged all female and nervous complaints, without strictly attending to its generick symptoms. We have here likewise, one proof that uterine relaxation is a more frequent female malady than obstruction in London: it is more so in warm than in cold climates: and probably, all these four female diseases are more prevalent amongst the higher and luxurious ranks; and in city than in country.

Hippocrates has truly said, “Uterus sexcentarum ærumnarum muliri auctor merito dicatur.” Great and important changes ensue at puberty amongst the two sexes, especially the female, affecting their future health. In both, the organs of generation are then evolved, and the sexes first capable of procreation. The semen in males about this period, begins to be strained through the generative organs, the beard to sprout, and the countenance to assume a more masculine appearance. That periodical discharge of red blood from the female womb, called Menfes, the index of womanhood, begins in this island to gleet monthly, about
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the age of 14, 15, or 16 : but its first eruption and final cessation, as well as its periodical returns, are sometimes extremely variable ; from 11 to 20 years of age ; and its final ebb between 30 and 50 ; generally, however, between 40 and 50. In warm climates, the menstrual commencement is earlier, and more profuse. This discharge is not suddenly in a full stream, but continues oozing from 3 to 5 days, and even longer ; the whole quantity in healthy women amounting to 4 or 6, and in others, to even 12 ounces : but the first efforts to menstruation are commonly scanty and irregular. The quantity of blood evacuated, the duration, the intervals, periodical returns and effects, are various ; and are diversified by climates, seasons, constitutions, mode of life, habit, and by numerous other accidental circumstances. In different women the menstrual intervals are from 2 to 6 weeks, or longer ; but when strictly regular, or the woman not pregnant, every lunar month. The first periods of menstruation, and the final cessation by age, are two very important epochs in female life, on which much of their succeeding health and longevity will

hinge. But, without entailing diseases, many women are liable to some menstrual irregularity, with respect to the periods, duration, and quantity.

Morbid and Irregular Menstruation, under the different heads of scantiness, chlorosis, or morbus virginis, retention, partial obstruction, and total suppression. The menstrual eruption is generally and naturally preceded by heat of the loins, and weight about the uterine region, frequently with pain and colick, lassitude, headach, dulness of vision, disturbed sleep, inappetency, and nausea, pain and load about the breast: all which, with many other troublesome symptoms, usually disappear on the establishment of this salutary and critical evacuation. But where the menses do not flow at puberty, or afterwards become obstructed or suppressed, a numerous train of morbid symptoms and fatal diseases often ensue; such as inappetency, indigestion, colick, palpitation of the heart, difficulty and labour in respiration, pulmonary consumption, hectic, dropsy, fluor albus, low spirits, fainting, hystericks, insanity, apoplexy, general bad health, barrenness

renness. Indeed, those women who have passed the stage of puberty some years without menstruation, are generally barren. — The Chlorosis appears about puberty, sometimes indeed earlier; and is more frequent amongst indolent and luxurious females. The complexion is pale, fallow, of a green sickly tinge; the lips pale, with aversion to motion, debility, with muscular flaccidity, inappetency, indigestion, craving for unusual and unnatural food, flatulence, palpitation of the heart, laborious and quick respiration on exercise or ascending any eminence; pain and weight about the loins, night sweats, hectic and emaciation, œdematous ancles, crude urine, usually obstructed menses, unusual bad health, and derangement of the animal, vital, and natural functions. It is seldom immediately dangerous to life, but often lays the foundation of some of those diseases above enumerated.

The predisposing and occasional *causes* of scanty menstruation, obstruction, and suppression, and of chlorosis, may be comprehended under the following: general bad health, debility, and unsound constitutions;
partial

partial weakness of the uterine vessels ; too great resistance and rigidity of the uterine vessels ; want of sufficient momentum in the sanguineous circulation ; scarcity of florid blood ; not sufficient motion nor exercise of the body ; sanguine plethora ; fizy blood ; spasmodic constriction of the uterine vessels ; sudden passions of mind, especially the depressing passions ; cold wet feet ; cold liquors and various cooling luxuries drank or eat at the menstrual period ; crude watery diet ; worms ; celibacy ; love ; falacity stifled ; lax fibre ; severe parturition, and local diseases inherent in the womb and vagina.

Uterine Relaxation, including excessive menstruation, fluor albus, leucorrhœa. There is a great similarity in all their causes. We here treat of menstrual excess in the unimpregnated state ; reserving for pregnancy that uterine hemorrhage, vulgarly denominated Flooding. Menstruation may be morbid from frequency in the returns, from duration, and from quantity. It has already been said, that the quantity of the menstrual flux, the recurrence, and the duration, vary
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in different women : the immoderate discharge is determined not altogether by the absolute quantity, but by the effects : such as languor, debility, pale countenance, weak pulse, palpitation of the heart ; depression of spirits, pain in the back and loins, inappetency, coldness of the skin and of the lower extremities ; in the evening œdematous ancles. Excessive menstruation may either be sudden and within a few days, or chronic and persevering a long time beyond the natural period. There is also erroneous menstruation from various parts of the body ; of which many extraordinary and monstrous examples may be seen in the records of medicine. Menstruation in excess, especially if chronic, is often accompanied with fluor albus ; and may terminate in consumption and dropy, and in many of the diseases enumerated, under obstruction and suppression.

The Fluor Albus often succeeds or accompanies excessive menstruation. It is a dripping discharge from the womb and vagina, and from the same vessels which exude the menses, sometimes pale and serous, or often variously intermixed with yellow, green, and red

red tinges; sometimes fetid and acrid, and either constant or irregularly intermittent. At the commencement, the usual concomitant symptoms ascribed to this disease, such as pain and weakness in the back and loins, indigestion, &c. only occur when the discharge is excessive, or long continued. It is then attended with a pale sickly colour and countenance, dejection of spirits, palpitation of the heart, lassitude and debility, pain in the stomach, loss of appetite, indigestion, flatulence, acrid and turbid urine, hectic. But notwithstanding the heat and acrimony of the excretion in many instances, especially when chronic and inveterate, yet it may easily be distinguished from venereal gonorrhœa. Women of various ages after puberty, married and unmarried, some even after the final menstrual cessation, are obnoxious to this gleet, which is not infectious. The fatal termination may be in some of the different diseases consequent of obstructed and excessive menstruation; such as barrenness, diseases of the womb; colick, piles, strangury, hystericks, low spirits, consumption, dropfy.

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The predisposing and occasional *causes* of excessive menstruation and of fluor albus, are, many of the general causes of hemorrhages, already enumerated; plethora, sedentary, luxurious life, stimulating and nutritious diet; too long indulgence in warm soft beds; warm chambers; suppression of usual and habitual evacuations; weakness and laxity of the uterine vessels from abortion, violent evulsion of the placenta, or other injuries during parturition; difficult and lingering, and also frequent parturition; general relaxation, and delicate constitution; weak nerves; violent exercise, especially in hot climates and weather; excessive heat of the season or climate; moist watery climate; violent efforts of the body or muscles, or straining of the body and loins; external injuries, or falls near the uterine region; excess of venery and falacity, masturbation; spirituous liquors and drunkenness, intemperance, immoderate use of tea, and other warm fluids; immoderate use of warm baths or stoves; neglect of cleanliness and absterfion; passions of mind, frights; impeded perspiration; excess of serum in the blood; scorbutic habit and acrimony;

mony : purulent translocation to and deposition upon the womb from other parts of the body ; polypi, fungus, scirrhus, cancer, ulcers in the womb or vagina ; procidentia uteri et vaginæ, emmenagogue medicines.

Final Cessation of Menstruation from years.
This is a dangerous period to women ; more so, perhaps, than any other stage of maturity. In this island the menses usually cease about 48, 45, or sometimes at 41, and earlier ; especially after frequent parturition. The springs of life, or generative powers, then become effete ; but in the male sex, the faculty of procreation continues ten, twenty, and in some thirty years later. In most cases, women do not conceive before menstruation, nor after its cessation. Towards the final drain, women commonly are irregular in the recurrence, duration, or quantity of the discharge ; which is often excessive. The longer or shorter duration of menstruation depends, in some degree, on its earlier or later commencement. Women who never had children, nor enjoyed sound health ; those whose constitutions have been impaired by frequent parturition and miscarriages, and others of delicate nerves and structure,

structure, all these are frequently obnoxious to complaints and diseases at the final uterine ebb. As infirmities and bad health are frequently removed on the first flow of the menses, such are also again prone to relapse in this autumn of life, into nervous complaints, hystericks, consumption, dropfy.

Hystericks, uterine suffocation, and female nervous diseases. This morbid Proteus rarely attacks before puberty, most frequently between puberty and middle age. Married and single women are obnoxious to it; but more so the latter and widows, and those barren, or irregular in menstruation. It is not so frequent amongst the laborious class, or those of clumsy organs, as in the higher ranks, and particularly in those constitutions strung to a morbid extreme of nervous and muscular sensibility and irritability. It may also affect females of robust muscular constitutions. It very rarely attacks the male sex; the only disease in them, somewhat analogous to it, is hypochondriasm. The regular hysterick paroxysm generally attacks by surprize, with a sensation of some pain and fulness, and of a convoluted ball or lump, rising up from the lower part of the belly

belly to the stomach and throat, where it seems to stick, and excites efforts to cough it up, or to gulp it down ; with difficulty of swallowing and sense of strangulation, and often suspension of the functions of voice and speech. In others, the ball, without ascending, rolls tumultuously and convulsively round the abdomen. The paroxysms are preceded and accompanied with palpitation of the heart : the patient often falls down in a fainting fit, turns cold and pale, and the breath and pulse are scarce perceptible. Sometimes the paroxysm deviates into immoderate laughter or tears ; sometimes into muscular convulsions and distortions, resembling epilepsy ; or into stupor and insensibility ; and there is usually a profuse secretion of limpid urine ; sometimes there is vomiting. After some remission and exacerbation, the paroxysms cease, the patient recovers, stupid, and seemingly dozing, with repeated sighing and sobbing ; and generally with some remembrance of the paroxysm. The form, duration, violence, recurrence, and repetition of the hysterick paroxysms are various, not only in different women, but even in the same at different times ; and, however alarming in appearance, are seldom immediately

ately dangerous to life : but by continuance, may derange the machine, and lay the foundation of diseases. They sometimes occasion symptoms of dyspepsy ; but oftener the appetite and digestion are unimpaired.

The prolifick brood of what may be termed Nervous symptoms, or irregular hysterick paroxifms, in their turn interrupt and disturb most of the important functions and organs of the human body ; the brain and nerves ; the heart, blood vessels, circulation, and respiration ; the stomach and intestines. Amongst this medley of afflictions are nausea and vomiting, flatulence, coldness of the stomach, depraved appetite, indigestion, unusual cravings, colick pains, sudden flushes of heat and cold, formication, transient fugacious pains, fixed spasms, fainting, convulsions, headach, general or partial, and fixed like a nail in a small compass ; vertigo, drowsiness, lethargy ; alarm, trembling and starting at the least noise or surprize ; the spirits sometimes exhilarated to excess, at other times plunged into despair : to these may be added timidity, capricious temper, palpitation of the heart, resemblance of

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spasmodic asthma, flow of limpid urine, or of saliva, difficulty of urine, night sweats; “cum multis aliis.” If the symptoms of each are properly understood, hystericks cannot be confounded with syncope, epilepsy, and apoplexy; to all which it has some resemblance.

The predisposing and occasional *causes* of hystericks are, excessive delicacy, sensibility, and irritability of the nervous and muscular fibres, and laxity of the muscular solids; retention and suppression of usual evacuations, especially the menses; scantiness and also excess in menstruation; fluor albus; profuse hemorrhages, and other evacuations by stool and urine; sanguineous plethora; hereditary; obstructions in some of the abdominal viscera, or in the circulation of the vena porta; scirrhus abdominal viscera; flatulence in the stomach and intestines; tough phlegm and sordes in the stomach and intestines; weak stomach; worms; improper food; drunkenness; indolent, luxurious, voluptuous, sedentary life; valetudinarian regimen; irritability of mind; passions of mind, particularly the disagreeable and depressing,

pressing, as cares, grief, disappointed love, jealousy, frights, intense fixed mental application to one object, religion, envy, anger, grievous misfortunes, joy, concealed uneasiness of mind; celibacy; salacity; sudden and great changes in the constitution from menstruation, generation, pregnancy, and parturition; impure blood, its acrid tenuity; repulsion of cutaneous eruptions; general bad health, and diseased state of the fluids or solids; irregular gout. It is often difficult and impracticable to dive into the real efficient causes.

Childbed Mortality in London is nearly one eightieth part of the whole funeral catalogue. It is in storms and hurricanes; or within a very short space of time. The mortality of this group must occur between the two extremes of 16 and 50 years of age. Or, as marriages in this island, one with another, are computed to commence on the side of the woman at 25, we may, with safety, rate the principal mortality in the stage of life between 20 and 50. On this interesting subject there are several curious and useful propositions, which I have attempted to establish

by demonstrative proof. These are, 1st, The number of women who, on an average, die in childbed: 2dly, The proportion between natural, laborious, preternatural, and complex labours: 3dly, The number of abortive and stillborn infants to those brought forth alive: 4thly, The proportion of twins and tergemini to single births: 5thly, The diseases principally fatal to women during pregnancy and parturition, and afterwards, with the arithmetical ratio and fatality of each, and also of labours. To the investigation of these corollaries I proceed in a regular order.

From twenty-four years of the London, and from several country registers in England and Germany, Dr. Short calculates, that on an average, 1 of every 60 women die in childbed: others rate the decrement at 1 of 66, or 3 in 200. Upon a much broader basis I formed a puerperal estimate. From the year 1700 to 1776, the christenings in the London registers amount to 1,220,656; and the abortives and stillborn in the same interval, to 46,831. The sum total therefore of the births, including the christenings and abortives, amounts to 1,267,487. During the

the above period of 76 years, the deaths in childbed are 17,057; which number employed as a dividend to the former, makes about 1 of 74 pregnant women to perish in childbed. But as a considerable number of infants, after being brought into the world alive, die before baptism or christening, and consequently are excluded from the publick enrolment of births and christenings, this is an additional reason for believing that the perils of childbed are not rated by us too low.

Respecting the proportion of natural, laborious, and preternatural parturition, Dr. Smellie says, "That of 1000 women in
 "childbed, 920 of them will be delivered in
 "the ordinary way, with little or no acco-
 "cheur trouble, skill, or assistance: 70 more
 "of the thousand will be difficult labours,
 "or slow and tedious, when often some skill
 "and aid of the accocheur will be necessary;
 "and the remaining ten of the thousand
 "will be preternatural labours." There
 will, therefore, according to this author, be
 about 8 *per cent.* of slow, laborious, preterna-
 tural, and anomalous labours, which, in dif-
 ferent gradations, will be more tedious, dif-

ficult, and dangerous than in the usual process of nature.

It is a proposition not uninteresting in Obstetrics, and in medical jurisprudence, and in many instances it is material to the medical character, to observe that, in the preceding list, during seventy-five years in London, there were brought forth alive and christened, 1,220,656; that the abortives and stillborn in the same period were, 46831, or as 1 of 26. But, as we just now remarked, that the chrifoms and infants who die in the threshold of life, and previous to baptism, are excluded from the registered births and christenings; on that account we may venture to calculate the abortive list to those who are ushered alive into the world, as 1 of 27 or 28; perhaps more, or about 3 *per cent.* Were we, however, to add the abortions and miscarriages of diminutive embryos, in the early months of pregnancy, and which are much more frequent than in the latter months, the abortive catalogue would be prodigiously swelled.

Dr.

Dr. Short attempted to ascertain the proportion between single births, twins, and tergemini, from a register of three large parishes, during a series of years, in which the single births amounted to 11,415; the twins and tergemini to 311, or about one of thirty-five.

Lastly, Let us examine what were the several diseases during pregnancy and parturition, and afterwards which occasioned this childbed mortality, and in what arithmetical ratio were the fatality of those respective puerperal diseases and casualties. This inquiry demands a previous analysis of pregnancy and parturition.

Conception and Pregnancy. In some instances, there is not a more puzzling problem in midwifery, than to decide the simple question, whether or not a woman is pregnant? The symptoms in the beginning are various and obscure, not only in different women, but even in the same woman at different times, and are fallible until the end of the fourth month of gestation. In the beginning, one or more of the following in-

dications sway our decision: a slight titillating pain, or unusual disturbance about the womb and navel; nausea and reaching to vomit in the mornings, loss of appetite, sudden unnatural cravings and longings of the stomach, heartburn, drowsiness, slothfulness, chagrin, capriciousness, dislike, moroseness, aversion to venereal dalliance, headach, toothach, increased secretion of saliva, tawny circle round the eyes, and some perceptible alteration of countenance. But the most unerring signs of pregnancy are by the touch and feel of the accoucheur's finger introduced into the vagina, or rectum.

The womb, a small bag, in shape and size like a pear, situated within the pelvis, between the bladder and rectum, and terminated at its lower part by a soft tube, from three to six inches in length, called the Vagina, begins in pregnancy to be enlarged. About the third month of gestation, the womb is closely locked up, and the menses cease to flow: but in some very rare cases, there is a ferous gleet during pregnancy, and in others plethoric, a small sanguineous discharge at the usual menstrual periods.

periods. About the fourth or fifth month, the womb is considerably distended, and its upper part ascends above the brim of the pelvis; by the finger it is felt weighty and enlarged, its neck shorter, and raised higher up in the pelvis; and the abdomen begins to be distended above the pubis. About this period also, the mother begins to be sensible of the infant's motion. For although the heart and arteries of the embryo, from its earliest rudiments, are in action, yet the other muscular efforts of the foetus are seldom perceptible by the mother until the third or fourth month, increasing in strength and frequency to the end of pregnancy. Before the end of the fifth month, the womb reaches up half-way between the pubis and navel; in the sixth month, to the navel; in the eighth month, half-way between the navel and stomach; in the ninth and last month, to near the lower part of the stomach, filling up the whole anterior part of the abdomen. The uterine enlargement is then not only perceptible to the hand pressed on the abdomen, but is also obvious to the eye of the spectator. In different women, however, the size of this protuberance is various. Towards

wards the latter stages of pregnancy, the mother's breasts begin to enlarge, and the circle or areola round the nipples, is of a brown colour.

Nine solar months, or thirty-nine weeks, or 273 days, reckoning from the time of conception, is the usual period of uterine gestation in the human species. But, as conception is often obscure, unless the limited congress of the sexes can be ascertained, we must be guided by probable conjectures respecting the ultimate completion of uterine gestation; in which women themselves often err days and weeks. The usual way of regulating puerperal books, or reckonings, is by going backwards, and computing from the middle space between the last menstruation, and the immediately succeeding menstrual period which should appear, but is interrupted to support the foetus. Some women are delivered of living children considerably earlier than the end of the ninth month; and others, probably, a little later.

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The comparative growth of the foetus infinitely surpasses that of its whole future existence. But the exact age of uterine embryos, and of abortives, is, in some degree, conjectural. Before the seventeenth day after conception, its rudiments are not even visible to the naked eye: the glary ovum has then slid down from the ovarium, through one of the lateral tubes into the womb. The size of an abortion, comprehending the foetus, its membranes, waters, and placenta, at the end of six weeks, does not exceed in size that of a pigeon's or hen's, and in three months, a goose's egg. About the end of the fourth month, its different viscera are formed; and its length between four and five inches. At the end of the ninth month, the homunculus length, from head to foot, is from sixteen to twenty-one, and in some even twenty-six inches: its weight, from six to ten pounds. Some extraordinary foetal giants, however, have been seen, from ten to twenty pounds in gravity. Its usual dimensions, so necessary to obstetrical knowledge, is, from the forehead to the hindhead, four inches and a half; from each temple the lateral dimensions

sions three inches and a half; the circumference of the head from twelve to fourteen or fifteen inches; the breadth of the shoulders five or six inches, and of the breech nearly the same; the circumference of the shoulders and of the breech, from fifteen to eighteen inches. We might also have observed, that in gravity, exclusive of placenta, membranes, and waters, the mature fœtus exceeds considerably that of the whole menstrual blood, were it to be accumulated throughout pregnancy.

In the womb, the fœtus is folded together into a round oval form; and its usual position is with the head downwards, presenting at the upper brim of the pelvis, and at the mouth of the womb; the chin resting on its breast; one ear turned to the back part of the mother, the other forwards; the face and hind-head to the mother's sides; the thighs bent up along the belly; the legs again bent backwards, with the heels to the buttocks; the arms laid along the infant's sides, or before its breast. Thus folded together in a globular heap, it is wrapped up in four delicate transparent membranes, and is immersed in
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in water, which continues decreasing throughout pregnancy, and at parturition is various in quantity, from one to six pints. By its blood vessels united into what is termed the navel-string, the foetus is attached to a flat round cake, resembling a firm coagulum of blood, called the placenta, and which is closely cemented with the mother's womb. In this natural posture the mature foetus lays above the pelvis, and totally within the abdomen.

Previous to parturition, the foetus must descend "*inter scyllam et charybden*," through that officious circumvallation, or bony cavity of the mother, called Pelvis. This cavity is open, both above and below, and is inclosed between the hips, groin, and lower part of the spine. The female pelvis, for obvious reasons, is more capacious than in males. In a well formed and proportioned woman, the common standard is at the upper part of the brim, from the back part of the spine, or sacrum, four inches and a half; laterally, or from side to side, five inches and a half; below, at the lower opening of the pelvis, these dimensions are exactly reversed. But as in parturition,

parturition, the os coxycygis, or lower bone of the spine, is elastic and moveable, on pressure backwards by the infant's head, the diameter of the pelvis below is thereby enlarged in all its dimensions. The ossious depth of the pelvis, from the top of the os sacrum to the extremity of the os coxycygis, is five, or five inches and a half; at the sides four; before, or in the interval between the groins, two inches. In some deformed and ricketty women, the dimensions of the pelvis are either throughout, or in particular parts, greatly contracted, and most commonly at the upper part.

Of *Parturition natural, laborious, preternatural, complex, or anomalous*. Natural labours are all those in which the infant's head presents at the orifice of the womb; which are probably ninety-nine out of every hundred labours. But in this presentation of the infant, some are natural and easy, and a small number lingering and difficult labours. Preternatural labours are either all those wherein any other part of the fœtus spontaneously presents at the orifice of the womb, or where, notwithstanding the natural presentation of
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the head, yet it is necessary to turn the infant by force, and to deliver it by the feet foremost. Complex and anomalous labours are those, whether natural or preternatural, accompanied with extraordinary symptoms and danger, such as floodings, convulsions, &c.

Labour or parturition is a salutary effort of nature, to expel the contents of the womb by its own muscular contraction, and the collateral assistance of the muscles of the abdomen, diaphragm, thorax, back, and extremities. These exertions commence at intervals, called Paroxysms, or Labour Pains, which are various in strength and duration, from one to several minutes, and recurring at irregular intervals of one minute, an hour, or more. The symptoms naturally preceding and accompanying real parturition are, anxiety, shivering, violent pains, shooting from the loins to the lower part of the abdomen or womb, and extending down to the thighs; trembling of the thighs and legs; frequent micturition, tenesmus, diarrhœa, and involuntary stools, colick; the countenance and visage florid and red from the violence of the muscular efforts, with profuse perspiration and sweats; softness
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of the breasts, sinking of the abdomen in size, gradual dilatation of the orifice of the womb, protrusion of the membranes through its orifice in the form of a soft gut or bladder: in the absence of the labour pains the membranes and waters are retracted, at length are ruptured, when the foetus may be felt with the finger introduced: next ensue the spiral descent of the infant's head through the pelvis, dilatation of the external parts round the orifice of the vagina, expulsion of the infant, its membranes and waters; separation of the placenta, exclusion and extraction, together with some sanguineous discharge. Natural labours are generally terminated within a few hours, from 2 to 12 of real labour efforts; sometimes in a few minutes, and with a trifling exertion or pain. In some warm climates labours are alledged to be particularly easy.

But there are specious, or False labour pains, which are vague and irregular in frequency and force, and do not produce any sensible enlargement of the uterine orifice, and are not attended with any mucous discharge: they are generally confined to the lumbar region and abdomen, without extending
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down the thighs; they are most troublesome towards night, and are relieved by clysters and opiates. They generally are excited by one of the following causes, stretching of the womb, erect posture, spasm in the intestinal canal, colick, costiveness, distention of the bladder with urine, &c.

Of laborious, lingering, tedious, or difficult parturition. Every labour in which the process is prolonged beyond 24 hours, may be classed under this head, notwithstanding the natural presentation of the infant. Sometimes the labour may continue several days, either from the head not entering the pelvis, or, which is much more frequent, from some impediment during its descent through that officious cavity. In these cases the woman becomes hot, thirsty, anxious, restless, low-spirited; is afflicted with headach, nausea, sickness, vomiting, incontinence, and difficulty of urine; she tosses incessantly, and finds no comfort in any posture. During this struggle, the infant's head advances slowly, or stops at various parts in its descent; and the intervals of labour paroxysms are various. It is by no means necessary that childbirth

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pains should be incessant, or without intervals of respite and rest. In some cases, tedious and difficult labours may continue two, three, and even four days and nights, when, after reiterated paroxysms, the infant may at length be excluded by the efforts of nature alone: in some of these cases also, the mother's recovery is surprisingly expeditious, as if she had been delivered in half the time; and unless some dangerous symptoms indicate, no manual assistance will be necessary. It is an obstetrical axiom, that in labours with the head presenting, the labour pains continuing strong, the woman not deformed, the pelvis sufficiently capacious, the constitution sound, not exhausted by labour pains nor weak, there is the strongest reason to expect that nature will be adequate to the task of delivery.

Indeed, the obstetrical cases, where instruments are required, are very rare; and in such emergencies there is often much greater difficulty to determine the ultimate propriety of employing instrumental aid, than in the mode of using the few implements peculiar to the obstetrick art; consisting principally of forceps, crotchet, and scissars. The danger of
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the mother, from tedious and difficult parturition, is discernible from her natural constitution, her debility, pulse, respiration, voice, countenance, the duration of the labour, the weakness of the pains, or their perseverance and severity, the space elapsed from the entrance of the head into the pelvis, and from the rupture of the membranes. The danger of the foetus may be predicted from the time its head has been pressed into the pelvis, and the violence of that pressure, especially on the yielding cranial bones.

Preternatural labours are these wherein any other parts but the infant's head present at the orifice of the womb; such as the feet, breech, shoulders, arms, and so on; besides those other cases in which, although the foetal presentation may be natural, yet, for variety of reasons, and in dangerous emergencies, it is necessary to turn the infant in utero, and to extract it by the feet. The signs of the preternatural position of the foetus are uncertain, until the accoucheur can touch the presenting part. But in all cases, natural and preternatural, before the rupture of the membranes and evacuation of the waters,

it is often extremely difficult to distinguish by the finger what part is felt. Preternatural postures of the infant may be suspected, if the pains from the beginning are lingering, tardy, weak, making little impression on the orifice of the womb, consequently tedious labours; if the membranes are either soon ruptured, or are pinched up into a conical form, like the finger of a glove; if no part of the infant can even be touched until the uterine orifice is moderately dilated, which remains high up in the pelvis, and when any part of the foetus can be reached, it is indistinct and irregular, and generally small.

In some preternatural presentations delivery may be easy; but in general, they are always precarious, often difficult and troublesome to the mother and accoucheur. After some continuance of labour the membranes break; but still no bulky part descends, nor is the mouth of the womb sufficiently dilated: at length the labour pains abate in strength and frequency; sometimes they intermit during a few hours, and, in some instances, a day or more. When we compare the size of the foetus and of the pelvis, the reason is obvious why in cross postures,

tures, where the infant descends double, and is expelled by the natural efforts of the mother, such cases will be difficult, especially in first labours; and unless the child is very small, it will often be born dead. It is true, Providence has wisely provided, as far as possible, against puerperal compression, by the softness of the buttocks, belly, and shoulders, and by the over-lapping of the parietal bones of the infant's head. Infants in the womb, we may presume, are subject to diseases as well as casualties; but probably the most frequent causes of mature abortives and stillborn, originate from laborious, preternatural, and complex parturition; which cases, as we observed, may be estimated at about *eight* per cent.: but the abortives and stillborn are not altogether three per cent.

In a pelvis not two inches wide at the brim, it is impossible for the foetus to descend alive through such a narrow passage. Deformity at the brim of the pelvis is more difficult to detect than at the lower part. Some pelvises have been seen not altogether one inch in diameter either above or below: but, happily, such instances of deformity very

rarely occur. We have but eight examples on record during the last hundred years in this island, three of them in London, and five in Edinburgh, wherein it was thought necessary to have recourse to the dreadful alternative of the Cefarian operation ; that is, of cutting out the infant by an incision made through the mother's abdomen and womb ; and all these women died. During the above long interval of time, including three generations, of fifty or sixty puerperal women in London, whose pelvices were remarkably small and deformed, notwithstanding the unavoidable necessity of recurring to obstetrical instruments, in order to diminish and tear away the infant, yet not above five or six died. We have instances, almost miraculous, where, after five days strong labour, and a pelvis deformed and contracted in all dimensions, yet, by obstetrical perseverance and skill, the woman has been delivered, and has recovered. Instructed by these precedents, we may reasonably expect, that two barbarous and ineffectual operations, the Cefarian, and the modern attempt at improvement, by severing the anterior cartilaginous juncture of the bones of the pelvis, will both hereafter be
for

for ever exploded, at least in this enlightened island.

Anomalous, or complex labours, are either natural or preternatural: but at the same time are accompanied with uterine hemorrhage, with convulsions, or with two or more foetuses; and to these some add the cases of instrumental delivery. It is natural and usual for the human species, and for all large animals, to bring forth one at a birth: twins often occur; tergemini are rare: four, or at least five, are not perhaps seen in some millions of births. Plurality of foetuses are seldom attended with peculiar circumstances of danger. Twins do not occasion much difficulty: they are generally small; and the remaining foetus is seldom discovered before the exclusion of the first, by which the passage is stretched. Neither the number nor size, and much less the sex of foetuses, can be predicted: a large quantity of uterine waters will sometimes produce a more prominent belly than twins, especially if the infant is at the same time large.

The predisponent and occasional *causes* of difficult, laborious, lingering, preternatural,

and complex parturition, are, on the part of the mother, ricketty formation, and deformity of the pelvis; this narrowness generally begins in infancy, and the common obstruction or protuberance is at the jetting forward of the lower lumbar vertebra, or of the os sacrum: the pelvis may also be too small, without any deformity or projection; it may be too narrow from the fore to the back part, above and below, and at the sides: the os coxycygis rigid; too great resistance and rigidity of the uterine orifice, which is a frequent cause; rigidity of the vagina and surrounding soft parts; first child; the mother in years, or long intervals between parturition; the womb too much distended and stretched, its irregular contraction, oblique position; the membranes too soon ruptured by nature or art, and the womb contracting closely before the infant's shoulders; the membranes rigid; the mouth of the womb strait, callous, inert, irritable; its spasmodic constriction; the bladder distended with urine; hardened feces collected in the rectum; piles; weakness of the mother; tedious labour and fatigue; passions of mind; terror and fear of the event; the mind and spirits broken, irritable; the mother delicate, fat, torpid, plethoric; diarrhoea, profuse evacuations, floodings, convulsions; heat, cordials,

dials, strong liquors; improper fatigue and torment during labour, with fruitless and officious endeavours in the accocheur to dilate the parts, and to expedite delivery: the mother's belly pendulous; tumours and cicatrices blocking up the vagina; rupture of the womb; stone in the bladder. From the foetus erroneous in position, and different to the natural; in laborious cases with the head detained at the brim, or after its descent into the pelvis: such postures are vertebral, occipital, auricular, mental, oral, facial. Of the preternatural and cross positions authors enumerate; the neck, breast, shoulders, arms, hands, back, loins, buttocks, breech, sides, belly, knees, feet. The foetus may also be detained by the whole being monstrous in size, or only in particular parts; such as the head, shoulders, belly; the head dropfical; the cranial bones ossified, and not yielding in its descent: the foetus dead, emphysematous, and blown up with putrid air: the navel string twisted round its neck; two or more foetuses entangled; twins growing together; deformed monsters.

Having now finished the various processes of parturition, with the perils and difficulties that encompass our immediate exit from the shell,

shell, I shall return back to pregnancy, to explore the different inconveniences and maladies that ensue in consequence of that state, both before and after parturition: many of these are merely temporary morbid symptoms; some of them rarely occur; others are attended with trifling danger; and a few only with imminent hazard. We may include all these troublesome symptoms, accidents, and diseases, under the following heads; proceeding progressively from the beginning of conception to the end of parturition, with all its train of evils. These are nausea, indigestion, vomiting, pains in the stomach, acidity, unusual cravings, headach, vertigo, costiveness, difficulty and incontinence of urine, piles, varix, pains in the back and loins, cramp, colick, fainting, œdematous legs and thighs, difficulty and labour in breathing, retroverted womb, extra uterine conception, superfœtation, graviditas perennis, moles and false conceptions, rupture of the womb, protrusion or too low descent of the womb or vagina, miscarriage and abortion, dead foetus, uterine hemorrhage, convulsions, irregularity of the lochia, including obstruction, suppression or excess, inflammation of the womb, puerperal fever, milk fever,

fever, weed, inflammation of the breasts, excess and defect of milk, insanity.

The causes of many of these complaints during the early and latter months of pregnancy, and affecting the head, thorax, stomach, intestines, rectum, bladder, and circulation, originate from sympathetic effects of conception and pregnancy; from plethora, from the bulk, weight, pressure, and irritation of the enlarged womb, and from its stretching, &c.; and either spontaneously, or by proper advice, cease before or after delivery. Several of the puerperal diseases and accidents to be immediately described rarely occur; and some of them are without danger.

Retroverted womb is a very rare accident; where it does occur, it is from the third to the sixth month after conception, when the impregnated womb is thereby prevented from rising above the brim of the pelvis; hence it falls back, and descends into the interior and posterior part of that cavity; its fundus becoming the lower part, and its mouth drawn upwards. The woman feels weight and pressure about that region; is afflicted with tenesmus and colic

lick pains resembling labour; the feces and urine are excreted with difficulty; the finger introduced into the rectum, feels the womb, where, by crowding the whole lower part of the pelvis, it compresses and irritates the organs in that vicinity. Its general causes are imputed to violent muscular exertions, fatigue, distended bladder, obstinate costiveness, capacious pelvis.

Extra uterine conception in the ovarium or fallopian tubes, where the fecundated ovum is stopped in its descent to the womb. Some have burst into the cavity of the abdomen, and formed abscesses in its depending parts; and others have been gradually, and in fragments, discharged by the anus. Superfoetation is a miracle in medicine, and commonly happens where there is a double womb. Of graviditas perennis, there are some extraordinary instances, or of pregnant women advancing to the full period of uterine gestation, about which time the foetus has died, the womb has not emptied any of its contents, and they have not been excluded until some years after. Moles and false conceptions often assume the semblance of pregnancy, and are generally void of danger. When the foetus is deprived of life, and dissolved

dissolved in the early months of pregnancy into a gelatinous state, the placenta and membranes remaining some time in the womb, acquire additional bulk, and are called Moles. Others again are formed merely of inorganic coagulated blood, after menstruation or flooding, and, by stagnation, assume that fibrous compact substance. Moles in general are excluded in a few months: some have grown to an enormous size, to double the weight of the natural foetus, and remained for years incarcerated in the womb.

Rupture of the womb during parturition, is also a very rare accident, and generally fatal; it occasions severe pains, sudden cessation of the efforts of labour, and of the descent of the foetus, which, if the laceration is large, by degrees is retracted, and cannot be felt; a considerable change and irregular protuberance is perceivable in the abdomen; the pulse and spirits soon sink, with vomiting, hiccup, convulsions. Inversion of the womb is a very dangerous but uncommon accident, and cannot happen but from gross obstetrical ignorance or rashness. Descent of the womb and vagina may be thrown into the general group
of

of ruptures ; of which hereafter. The following comprehend most of the fatal diseases and accidents during the puerperal state.

Abortion and Miscarriage ; Uterine Hemorrhage, or Flooding. Abortion or miscarriage, or premature exclusion of the foetus, may happen through every month of pregnancy. Early miscarriages between the third and fifth month, though not recorded in the burials, are notwithstanding far more numerous than in the latter months ; but are infinitely less hazardous to women. The mature abortives and stillborn, are alone thought deserving of formal interment, and of notice in the registers. To carry a diminutive embryo, a Lilliputian in miniature, to a church-yard, and to bury it with funeral pomp and obsequies, would be ridiculous. In all probability, a very great majority of the registered abortives and stillborn in London, had arrived at or near the full period of uterine maturity. Some miscarriages are sudden, with little or no warning, and with ease ; others again are slow. In early gestation, the gelatinous ovum is sometimes excluded several days before the membranes ; in other cases, there

there is a discharge of serum days and weeks before miscarriage. Abortion is usually preceded by nausea, pain in the back and loins, frequent micturition, tenesmus, discharge from the womb of water or of blood. If not in their immediate, yet in their future consequences, miscarriages are much more fatal to puerperal women than appears in the registers.

Floodings are seldom fatal to women before the two or three last months of pregnancy; the gradations of danger increasing to the end of the ninth month, at which period the uterine blood vessels are enlarged, and the hemorrhagick torrent is in proportion. The mouth of the womb also being then less distended than in ordinary parturition, is more difficultly forced open to expedite delivery. Floodings may at intervals, and some weeks precede natural parturition or miscarriage; and after a temporary cessation, are prone to return on the slightest irregularity. Their danger is estimated from the quantity of blood, the suddenness of the torrent, and the effects on the mother; such as paleness, weakness, coldness of the extremities, quick fluttering pulse and respiration, fainting, dejected countenance,

tenance, weak voice, convulsions : these portend imminent danger to the mother and infant, as do floodings near the full period of gestation, and not accompanied with labour pains. Uterine hemorrhages may occur not only in abortion and natural parturition, but also immediately, or soon after the birth of the infant, and extraction of the placenta. Sometimes also during parturition, when the child's head blocks up the pelvis, the hemorrhage has been unperceived, and often unsuspected, until after the exclusion of the infant : but the uncommon weakness and faintness of the mother, without any evident causes, might have given the alarm.

The predisposing and occasional *causes* of abortions and floodings are, frights, terror, anger, violent agitation of mind or body ; strong muscular exertions and efforts ; external injuries, blows, falls, running, leaping, coughing, crying, fainting, hystericks ; plethora ; errors in the non-naturals ; impetuous flow of blood to the womb, salacity ; too much amorous dalliance ; too strait lacing and dress ; hot close rooms ; foul air ; disagreeable smells ; cravings not gratified ; spirituous liquors ;
abuse

abuse of emmenagogue, cathartick, and diuretick medicines; hardened feces and costiveness; piles; extreme irritability of the body and womb; weak hysterical constitution; weak diseased small, contracted, not sufficiently dilatable womb; weakness of the uterine vessels from preceding abortion, irregular menstruation; poor blood; fluor albus; previous injuries during parturition; repetition from habit; the habitual tendency towards menstruation every month; hereditary; acute or chronic diseases; morbid adhesion of the placenta, and also coalescence with the womb from previous inflammation; partial separation of the placenta; rupture of the vessels on the surface of the placenta; separation of the false chorion from the womb; adhesion of the ovum or placenta to the neck of the womb; blights of the foetus, scarcity of nourishment in the womb, its violent efforts, monstrous size, its diseases in the womb; rupture of the navel string, a noose formed upon it; long compression of the infant's head or navel string during parturition; injuries by the hands or instruments of the accoucheur; a dead foetus.

The signs of a dead fœtus are in the mother subsidence, softness, and coldness of the abdomen and breasts, sickness, faintness, shiverings, cold sweats, sensation of a heavy tumour within the belly, cessation of the motion of the fœtus after quickening, putrid discharge from the vagina, evacuation of the waters, dejected languid countenance: if, during actual labour, the mother perceives no motion of the infant, and is cold; no pulsation can be felt between the interstices of the infant's parietal bones, nor at its wrist, nor navel string; its outer skin easily peels off; it has a lifeless coldness; and there is a cadaverous smell and fetid discharge from the vagina.

Convulsions may happen before, during, and after delivery. They resemble epilepsy, with froth at the mouth, distortion of the countenance and body; and are a much more terrific and frightful spectacle than hysterical and nervous spasms. In the advanced state of pregnancy, convulsions are still more dangerous, and, like the sudden impetuosity of a whirlwind, sometimes close the fatal scene; especially if at the same time a violent pain is
felt

felt at the stomach. The plethoric and robust are not exempt from this tremendous assault; but the hysterical and delicate are the most frequent victims. The predisposing and occasional *causes* are morbid sensibility; profuse uterine hemorrhage; want of due quantity of blood; plethora; frights; low spirits; fear, dread, surprize, and sudden emotion and agitation of mind at this critical period; dead foetus.

Irregularity of the Lochia, comprehending excess, obstruction, and suppression. After delivery, there is generally a gush of red blood, from about a half to two pounds. The mother is then weak and infirm, from the fatigue and efforts of parturition; from the great evacuation and diminution of the womb and abdomen; from the loss of blood; from the agitation and anxiety of mind; and from the increased irritability: and, according to certain states of the air and seasons not yet explained, women are then more than at any other time prone to fevers. In most cases the placenta is expelled in ten, twenty, or thirty minutes after the infant. Afterwards, the orifices of the uterine vessels continue to

discharge red blood, which gradually becomes thin and serous, and even in some degree purulent. This discharge named *Lochia*, is various in duration and quantity, from two to ten ounces daily, and, gradually decreasing, in about ten or twenty days is dried up; nature having then restored the womb to its natural size: and at this stage all immediate puerperal danger is escaped. Sometimes there are great variations in the lochial duration in different women: in some, they cease after a few days; in most, after two or three weeks; and in a few others, not until after one or two months: the duration and quantity being varied by climate, season, constitution, mode of life, and state of the breasts. Lochial excess is determined more by the morbid effects than the absolute quantity; such as weakness, paleness, dejected countenance, feeble voice and pulse, fainting, convulsions. Or in its consequences it may more slowly sap the pillars of health, and occasion consumption or dropsy. Obstruction and suppression of the lochia is much more frequent and dangerous than excess. Most of the usual complaints after delivery, says Smellie, originate from obstruction of the lochia, or of milk:

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the former is accompanied with pain of the back and loins, pudenda, and groins; heat, shivering, hard quick pulse, restlessness; sometimes colick and diarrhoea, and difficult oppressed perspiration.

Inflammation of the Womb begins generally between the fourth and ninth day after delivery, and commonly with retention of the lochia: with fever, heat, and pain about the uterine region, elevation and hardness of the abdomen below, with tenderness and acute sensibility on pressure, irritation to urine and stools, colick, intense headach, strong full pulse. The whole, or different parts only, of the womb may be inflamed, whence the contiguous viscera of the pelvis will be differently affected. Where the inflammation is not violent, the crisis is about the fourth or seventh day from the attack; but if severe, may be protracted to the ninth, eleventh, and fourteenth, and be then dissolved with some sensible evacuation, by perspiration and sweat, urine, diarrhoea, lochial discharge, or current of milk from the breasts; or may terminate fatally in gangrene, delirium, and convulsions.

The predisposing and occasional *causes* of irregularity of the lochia, and of uterine inflammation, are, of Excess, grumous clots of blood in the womb; violence done to the womb during parturition; retention of the placenta, or part of it; great weakness; passions of mind; a second child; spasm; repulsion of milk from the breasts; too early and violent motion or walking about; diseased state of the womb; inverted womb; errors in food, drink, passions of mind, excretions, &c. Of Obstruction and Suppression; clots of blood in the vagina; cold admitted to the naked body, either externally or internally; cold rooms, cloaths, and drink; obstructed perspiration; impure air and close heated rooms; passions of mind; hystericks; errors in the non-naturals, diarrhœa. Of inflammation of the womb, suppression of the lochia; external violence; falls; rude extraction of the placenta; morbid adhesion of the placenta; miscarriage; too tight bandages round the belly: its termination is by discission or gangrene.

Puerperal

Puerperal Fever, or Peritonitis, commonly alledged to be peculiar to women after delivery, has been dignified by the moderns, from its danger and fatality, with a generic name: happily for the fair sex, it does not often occur: sometimes it is epidemic, from some unknown quality of the atmosphere; and in such circumstances a considerable number of puerperal women are afflicted at the same time. It generally attacks one or two days, but sometimes a few hours after delivery; and rarely later than the sixth day. The assault is sudden and violent, with shivering, head-ach, especially in the temples and eyes, giddiness, nausea, sickness of the stomach, and vomiting of bile in large quantity, pains darting through the lower region of the abdomen, and reaching up to the stomach, with extreme sensibility and tenderness, on being pressed with the hand, or by coughing or vomiting: the pain is felt between the stomach and navel, and is higher than in the inflammation of the womb; there is unusual languor and weakness, anxiety, oppression, and load of the spirits, impaired strength, so as not to be able to render themselves any assistance in bed; no refreshing sleep, sometimes deli-

rium; the pulse is always extremely rapid, but various in strength during the revolution of the febrile paroxysms, that is, of the cold and hot fit. When the vomiting abates, it is succeeded by a profuse diarrhœa, accompanied with colick, tormenting gripes, tenesmus. In some, the abdomen begins to swell early. At the beginning the symptoms have an inflammatory appearance; but after a very few days change undisguisedly into the nervous and putrid type, and sometimes with miliary eruption. Often neither the lochial discharge, nor the milk, are interrupted; and it has been observed to ensue even after easy labours.

The puerperal Fever will be affected and diversified by different constitutions and temperaments, whether robust, plethoric, or delicate; by the quantity of the lochial discharge, the putrid atmosphere in the sick room, the medical treatment, the state of the atmosphere and seasons, and morbid quality of the prevailing febrile epidemick. Between five and fifteen days terminates the event in recovery or death. It is always most fatal when most epidemick, and the sooner it attacks after delivery. In some of our London hospitals

hospitals, one half of the women ill of this fever have died ; in others, one of seven. The crisis by discussion is followed by diarrhœa, by a ferous or purulent transfusion from the omentum or mesentery, into the abdomen ; and from this cause sometimes consumption and dropsy. Some, even after a favourable crisis, have recovered slowly. When gangrene is the direful event, it is commonly within four or six days from the attack, and is known by the usual symptoms.

The predisposing and occasional *causes* are, a peculiar noxious constitution of the atmosphere ; errors in the non-naturals ; anxiety of mind ; hot cordial regimen ; heated un-ventilated rooms after delivery, and impure air ; hence miliary eruptions and profuse sweats. The immediate cause is generally ascribed to inflammation of the omentum, mesentery, or peritoneum, and the sudden contraction of the womb after delivery, dragging and tearing down with it these membranes. But it merits the most serious and mature investigation, whether to employ the remedies accommodated to inflammatory, or to nervous and putrid fever. We know that
 purulency

purulency in the abdomen and thorax is likewise found in the putrid fever of the West Indies.

After-Pains; Weed, Milk-Fever; Inflammation of the Breasts, are far less formidable foes than the preceding. After parturition, women are sometimes afflicted for some days with pains resembling colick; both in torture and severity extremely harassing. The *causes* are, the continued and sudden contraction of the womb towards its natural dimensions; fragments of the placenta or membranes, or of clotted blood in the womb; injuries done to the fibres of the womb during parturition; violent extension of the suspensory ligaments; inflammation and irritation of the womb, or its neck: tender state of the intestines; flatulence; flatulent food; suppression of the lochia; errors in the non-naturals; a second child. Weed, or ephemera, sometimes occurs, and is the most simple and innocent species of fever; it is preceded by lassitude, slight wandering pains; a succession of shivering, heat and sweat, resembling an intermittent paroxysm; and in the space of a few hours, or at the utmost days, the fever disappears.

disappears. The causes are some errors in the non-naturals. Milk fever: during pregnancy and parturition the breasts sympathize greatly with the womb. This natural fever begins three or four days after delivery, with shivering and heat, pain, distention and throbbing of the breasts, shooting to the armpits, restlessness; after twenty-four hours, commonly terminating by sweat, diarrhoea, eruption of milk: the usual quantity of this nutritive fluid is from two to three pints daily. In the preceding puerperal stage, inflammation of one, but rarely of both breasts, is a frequent affliction, varying in degree and severity: its symptoms are local redness and swelling, burning heat, extreme tenderness, throbbing; and is terminated by discussion, frequently by suppuration; sometimes by scirrhus. The *causes* are impetuous rush of milk to the breasts; excess of milk; not suckling; milk obstructed in the breasts or lactiferous tubes; suckling too soon; obstructed lochia; cold and obstructed perspiration.

Infant

*I*NFANT DISEASES every where furnish a vast supply to the gloomy realms of Pluto; and this calamity is infinitely aggravated by the noxious atmosphere of cities and towns. At birth, an infant is not only ushered into a new world, but every function of its frail body undergoes new and sudden changes. From the human oven of 96 degrees of heat, it is launched into a variable climate of heat and cold. A new element of many thousand pounds weight then presses upon the surface of its body. This atmospherick fluid, adulterated in cities with innumerable impurities and feculencies is drawn into its lungs: its diaphragm and muscles of respiration then begin to act, the lungs expand, and the respiration commences. The passage between the auricles of its heart and arterial duct are gradually closed up; the sphere of the circulation is extended; the whole current of blood in its frequent revolution hourly, passes through the lungs; the circulation through the navel-string, and through which it had till then drawn its principal nourishment, instantly ceases: food, for the first time, begins to

to be taken in by its mouth ; the digestive, with all the numerous secretory and excretory organs, then begin to perform their different offices ; the tender creature is exposed to sounds, in a few days to light ; the bones at the superior part of its head gape, and the brain is there defended by skin only ; its head, belly, liver, and lymphatic glands, are large, and its extremities slender ; the fetal brain is destitute of ideas ; its bones are little more than gristles and cartilages ; its muscles are soft, flabby, and without swell or expression ; the greatest part of its time is spent in a state of inactive vegetation ; it is unable for several months to support its own weight, or to take nourishment, and is then the most feeble and helpless of all the animal creation. With such delicate machinery, it has soon to encounter pain and disease ; the assaults of internal and external enemies ; when its crazy beams and bolts are easily shook asunder in the first storm.

The acute diseases of early infancy ; that is, under two years of age (small pox, measles, and a few others excepted) are in the London registers, principally accumulated
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into two aggregate heaps, *Convulsions and Teething*: the former of which forms a dreary catalogue of astonishing magnitude in London funerals; amounting to nearly one third of the whole mortality in the metropolis. But convulsions and teething are terms too indefinite. Every infant disease, not immediately obvious to the senses, is thrust into these two articles by the ignorant reporters. If we consider the term scientifically, convulsions, in multitudes of cases, convey no more intelligence of the nature of the disease, than if they had said the child died from want of breath. Let us therefore examine, whether the collected observations of medical authors will not illuminate many dark and defective parts of the publick registers, respecting infant mortality. Infants are exempt from a multitude of the acute and chronic diseases of adults: they rarely suffer so early in life from hereditary diseases, cares, passions of mind, painful impulses of retentive memory, severe study, intemperance, hard labour, the inclemency and vicissitudes of the seasons, and so on. The principal diseases of infancy may be comprehended under the following: convulsions, inward spasms and

and tetanus, colick, vomiting, acidity, indigestion, flatulence, diarrhœa and gripes, thrush, dentition, hectic fever and atrophy, rickets, scald head, rash, dropfy of the head and spine, inguinal ruptures; together with small pox, measles, hooping cough, worms, and a few others already described.

As infants cannot by speech express their pain, we are too often under the necessity to guess at their complaints by physiognomy, gestures, and dumb signs: these are principally manifested by nausea, indigestion, vomiting, flatulence, refusal of food, or the breast, diarrhœa and its different colour and consistence, restlessness, cries, shrieks, agitation and contraction of the lower extremities, disturbed sleep, injured respiration, cuticular eruptions, pustules, and ulcers. In infancy the pulse and urine are precarious symptoms: their arterial pulsations in fevers are sometimes so rapid, that the most minute divisions of time in horological instruments, cannot keep pace with them.

The general *causes* of Infant Diseases and mortality may be referred to the sudden and
violent

violent changes after birth in its tender machinery ; to weakness and injuries from tedious and laborious parturition ; delivery before the end of the ninth month ; hereditary debility ; diseased parents ; foul air of cities ; improper food and drink ; scarcity of food and milk ; ill formed nipples ; the tongue tied or retracted ; errors in quantity or quality of nutriment ; too long continuance of vegetable and acescent food ; foul stomach and intestines ; acidity in its stomach ; errors of the mother or nurse in food, drink, rest, exercise, excretions, passions of mind, ill temper, passionate, hysterical, addicted to raw spirituous liquors and drunkenness ; diseased ; fasting too long before the infant sucks ; unwholesome milk ; adulterated milk and bread ; neglect of cleanliness, and suffering the infant to lay too long in wet cloaths ; insufficient exercise, and also too violent agitation of the infant ; the ligatures, bandages, and pins too tight, and tormenting the infant ; improper positions and postures ; cold cloathing and habitations, beds, and scarcity of fuel, especially in northern regions, and in winter ; infants excretions, and especially by the anus, defective or excessive ; improper treatment

treatment and quackery of old women and nurses, and other such medicasters, during its illness. It is but candid also to confess, that, in numerous instances, the causes of infantile maladies are not yet sufficiently established nor explained.

Convulsions, Inward Spasms, and Tetanus.

From the exquisite tenderness and irritability of its frame, most diseases of infants, when fatal, seem to terminate in spasms, epilepsy, and convulsions; with which they are infinitely more afflicted than adults, and often endure better. Inward spasms are amongst the first of infantile maladies: it appears as if slumbering; the eyelids are not perfectly closed, and the white bulb of the eye is partly turned upwards, and exposed to view; the eye-lashes twinkle; there is a tremulous motion of the muscles of the face and lips, sometimes resembling a smile or laugh: as the disease increases, the breath seems frequently to stop; the tip of the nose is then contracted, with a pale, sometimes ghastly and livid circle around the eyes and mouth; it starts on any motion or noise; sometimes it seems falling into convulsions, but on discharging flatulent air upwards

and downwards, it recovers, and relapses again into a lethargic state. By continuance, these spasms often terminate in some of the following diseases; hectic fever, thrush, vomiting, diarrhoea and green feces, watery gripes, convulsions. Infants also are sometimes subject to a locked jaw; which we have already noticed under Tetanus.

The predisposing and occasional *causes* of convulsions and inward spasms are, acrid stimulus of food, acidity, or bile, or inflammation in its stomach or intestines; general debility; the brain compressed during parturition, hence mould shot, horseshoe head; water in the brain; teeth cutting the gums; passions and frights of the nurse affecting her milk, or drinking raw spirituous liquors; improper food of the nurse or infant; scald head, excretion behind its ears, and cutaneous rash repelled; they are usually imputed to fulness and foulness of the stomach and intestines. Lastly, Derangements in its yet crude machinery.

Some adult mortality, but in all probability a very inconsiderable portion, is included in convulsions: infants are the principal victims.

tims. The convulsive list diminishes during the latter half of the present century: but to unravel the problem respecting convulsive increase or decrease, requires more elaborate investigation than preceding calculators and criticks seem to have suspected. It is necessary to contrast the deaths by convulsions and teething with the christenings; for if more are born, more should be expected to die in infancy. We must also take cognizance of some other titles of London diseases, particularly stoppage of the stomach, colick and gripes of the guts; both which have already been under review. Besides, chrysons and infants, an obsolete term, denoting the deaths in the first month after birth, is long exploded from the bills, and probably ingulfed in convulsions.

Dentition. It is probable that the mortality under this head is exaggerated enormously in the London registers, amounting to one fifteenth part of the annual burials. Dentition usually commences about six or seven months after birth; sometimes not before ten, twelve, or eighteen months, and, in some extraordinary instances, not before two

years of age. These sharp bones, in piercing the tender gums, often excite exquisite pain, restlessness, fever, flow of saliva; the infant's hand is frequently thrust into its mouth; it bites the nipple; sometimes the gum is swelled at the jutting of the tooth, and a pale spot appears at the part where it endeavours to protrude. When dentition is out of the natural order, it is generally painful: in the natural progress, the two foreteeth of the lower; then those of the upper jaw; next, the two adjacent of the upper, and afterwards of the lower jaw, cut their way. After the eye-teeth, or canine, in the upper, and those two opposite to them in the lower jaw are protruded, the danger of teething is generally escaped. It is only in the first dentition, that is, under two years of age, that mortality ensues from this source: the fatal and most frequent transition is into convulsions. About two years of age, infants are generally provided with twenty teeth for the purposes of mastication: and this number remains stationary until after seven years from birth, when all the first set are gradually and successively thrust out by others deeper seated in the jaw bones; about the age of fourteen all are excluded;

cluded; and in adults the number is increased to thirty-two.

Rickets. Notwithstanding the omission of ancient authors to discriminate this disease, we cannot believe but that, in this instance, the same causes would in all ages have produced the same effects. Rickets would seem by the London registers to decrease; for in our last group of fifteen years they shrink to 104; whereas in the thirty last years of the preceding century, rickety deaths are numbered at 11,415. To what cause is this decrease to be ascribed? Does it indicate more maternal attention, and also more propriety in suckling and rearing of infants? Is implicit faith to be placed in the London registers, and crimination of diseases?

Rickets, one of the chronic diseases, seldom commence before three, six, or nine months after birth, generally between nine months and two or three years of age, and seldom or ever after five. The progressive symptoms are aversion to motion, and to put the feet to the ground, decrease of strength, paleness and flaccidity of the muscles, wast-

ing of flesh, although in many the appetite is voracious; enlarged belly, liver, spleen, head, and joints; tumid and tympanitick abdomen; laborious respiration; dentition later or slower than usual; carious teeth; fetid breath; premature acuteness of genius and reason than is natural to the years; the countenance serious and ancient; the infant waddles in its gait, the spine and bones of the lower extremities become crooked and deformed, the breast prominent. The earlier rickets commence, they are more contumacious; and when chronic or fatal, are frequently accompanied with hectic fever: they may continue several years, and at length terminate in general bad health, atrophy, dropy. Should they not be checked before the fifth, or at the utmost, the eighth year, irremediable deformity must ensue, which in females is often the cause of distorted pelvis, and difficult labours. The predisponent and occasional *causes* are hereditary; weak diseased parents or nurses; negligent nursing; not sufficient exercise nor cleanliness; improper diet and gross food; worms; foul stomach and intestines; scrophulous obstructed mesenteric and lymphatic glands; diseased liver; general bad health, with hectic fever;

fever; various causes of atrophy; difficult dentition; faulty state of ossification; deficiency in the ossious rudiments; faults in the organs of nutrition.

Thrush. In the preceding century, *Canker* was often joined together in the London registers with Thrush; but whether it should be coupled with this or with gangrene, or with both, I cannot determine. Thrush is principally a disease of early infancy: it is likewise often a concomitant symptom of some febrile and acute diseases of adults. It infests not the young alone, but also aged persons, especially in cold northern and moist climates, in damp situations, and in warm rainy seasons. As an idiopathic disease of adults, it is rare in this island. The disease generally appears first on the tongue and roof of the mouth, in small superficial red specks, and ash-coloured ulcers, spreading gradually over the palate, fauces, cheeks and lips; with anxiety, restlessness, pain, difficulty of suction and deglutition, fever, nausea, vomiting. After some time, the ulcers form thick, tenacious incrustations, shining like lard, ash-coloured, brown, rarely black: these crustaceous layers scale off, but,

not unfrequently, after the interval of a few days, are again renewed: the oftener the worse: and in such cases they may be protracted weeks. When the raw skin appears dry under the crusts after desquamation, they are reproduced; moisture there indicates a speedy and favourable termination: diarrhœa frequently supervenes.

In order to prevent the superfluous multiplication of symptoms and diseases, and which are common to all ages, I have, under the respective titles of *Vomiting* and *Acidity*, *Colick*, *Diarrhœa* and *Watery Gripes*, diseases so frequent and harassing in infancy, added the discriminating marks and peculiarities in those early years. Small pox, measles, whooping cough, croup, dropfy of the head and spine, phthisis, hectic and atrophy, scald head, rash, worms, have each been the subjects of preceding investigation: ruptures make a part of our subsequent inquiry.

A Miscellaneous group of diseases are here associated : several of them unconnected in symptom, cause, or cure : others are of exotic origin, and transplanted amongst us. Mankind left exposed, without defence or remedy, against even this small morbid host, would soon be sensible of the calamities and scourge of medicinal ignorance : and they would be less surpris'd at the incorporation of medicine with divine worship in ancient times.

Venereal Disease. Three hundred years have not altogether elapsed since the discovery of America, and the importation of the venereal disease into the old world. Before the discovery of its antidote, mercury, and in some inferior degree of the native Indian remedy, the decoction of guaiacum, Europe was alarmed with universal consternation at the rapid inroads of this disease : multitudes, of all ranks, perished in lingering torture, under its corroding ulcers, presenting before death hideous spectacles of cadaverous corruption and deformity.

deformity. In the last thirty years of the preceding century, 2360 deaths are recorded under French pox, in the London bills; and even at this day, the chart of diseases demonstrates its fatality to be infinitely greater than medical men could suspect.

It would, in this disease, be ridiculous to inspect hospital registers, for the purpose of either ascertaining the ages wherein venereal ravages prevail, or the proportion of cured and incurable. Its ravages cannot be in infancy, nor in adolescence, nor in the decline of life. The merest smatterer in medicine knows the infallible remedy and cure; except that in the application to particular cases, some more judgment and dexterity is necessary. The multitudes who now perish in these battles of Venus, are so many sacrifices either to negligence or to indigence; or to the grossest ignorance and empiricism of licenced murderers. There is no other disease wherein professed quackery is so generally resorted to, or wherein its decoys are so pernicious to the community. The great majority of these victims to seduction, pleasure, and necessity, are in all probability amongst
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the swarm of wretched and unfortunate female prostitutes; and in the male sex amongst the lower orders: for in those of less straitened circumstances, a small bribe to the searchers would conjure venereal mortality into sores or ulcers, or into consumptions. Besides, were we to add to venereal carnage the shattered constitutions, in consequence of these wounds and scars, it would appear an object of sufficient magnitude to attract the attention, interposition, and regulation of the legislature. In every metropolis, especially amongst the unmarried, and in armies and navies, it is without doubt, much more fatal to the community. Indeed, in cities, few of the male sex, arrived at adult years, can boast of not having been, in some giddy moment, fascinated into impure embraces.

There are two distinct genera, or species, of the venereal disease; the Local Gonorrhœa, and what is called Confirmed Pox. The gonorrhœa generally begins from two to six days after the infection, with titillation of the glans, redness of the orifice of the urethra, and oozing of mucus; which tinges the linen in spots and hardness. These symptoms are daily
aggravated

aggravated with stranguy, dysury, involuntary painful priapism, and nocturnal pollution. Sometimes, though rarely, gonorrhœa is confined to the external mucous glands about the neck or ring of the glans. In females, the gonorrhœa affects principally the vagina, with pain, heat, and mucous discharge; but no considerable dysury. The lues venerea confirmata, or syphilis, commonly begins with either one or more ulcerations of the penis, or vagina; or with inflammation in the glands of the groin. The ulcer or chancre appears as a red spot on the glans, or prepuce, is hot, prurient; in a few days the top changes into a white speck, ulcerates, and, if not prevented, gradually spreads and corrodes all around. Inflammation, or bubo in the lymphatic glands of the groin, may either originate from previous chancre, or without it. In this a tumour and pain is felt in the groin, with enlargement of the glands: this tumour and inflammation, if not checked, increases to a boil, and suppuration; but often with tedious subsequent ulcerations, fistulas, and sanious discharge.

These

These are the two usual and slight appearances of gonorrhœa, and of confirmed pox, when the infection is first applied to the genitals; and frequently these two genera are complicated. But in both genera, from various causes, originating from the virulence of the disease, the intemperance of the patient, or mismanagement of his medical pilot, many adventitious and aggravated symptoms are superadded; in number and severity varying in different persons; several of them, when violent and precipitate, requiring speedy alleviation; and often to be treated as separate diseases. In the malign train of gonorrhœa are violent inflammation and constriction of the prepuce, before or behind the glans, or phymosis, and paraphymosis; dysfury, strangury, priapism; painful and inflamed testicles; scirrhus and indurated testicles; chronic gleet; stricture, caruncles, and obstructions in the urethra. Confirmed pox, in its inveterate and chronic stages, contaminates the whole constitution; erodes the genitals, or anus; ascends to the throat, and excites callous ulceration and dilapidation in the uvula, tonsils, fauces, palate, nose; hence hoarse, guttural voice, fetid breath: the patient

tient is variously tormented with gnawing pains in the legs, shoulders, and hand bones, which are exasperated in bed ; with chronic headach ; with cutaneous eruptions on different parts of the face, trunk, or extremities, and dry, scaly, humid, ulcerated, red, yellow, or purple ; with ophthalmy ; with nodes and tumour of the forehead, exostoses and caries of the bones ; atrophy. Chronic warts about the genitals and anus, and called by different names, porri, crystæ, condylomata, rhagades, thymi, moræ ; are generally innocuous.

The *Causes*. Infection by contact with the genitals : or the pox, when inveterate, may be communicated by the mouth and nipples ; by drinking out of the same vessels, by touching any diseased or ulcerated part. When inoculated by suction, it begins first in the mouth or nipples.

Scurvy. True scurvy is seldom or ever mentioned by any writer, before the long voyages, first began three centuries ago by the moderns ; that is, on the discovery of the passage to Asia by the south cape of Africa ; and the discovery of America. Then, in consequence

consequence of living long on salted and gross diet, and the want of fresh vegetables or fruits, together with their ignorance of the cause and cure, this disease made dreadful havock amongst naval squadrons, and the other busy hive employed in nautical commerce. The ancient navigators, who seldom ventured out of sight of land, or capes; and who probably were not under the necessity of subsisting long on salted food, do not appear to have suffered by, nor even to have known, the disease. Hippocrates is by some supposed slightly to allude to scurvy, under the name of large spleen; accompanied also with spongy putrid gums, and offensive breath: it is also, though indistinctly, noticed by Pliny, as affecting a Roman army encamped on the banks of the Rhine.

Through all the northern kingdoms of Europe, particularly in the winter season, and in Holland, amongst those who fed chiefly on salted fish and gross diet; who drank bad waters, and dwelt either in morasses, or near the sea coasts, and were exposed to cold and moisture, scurvy in the two last centuries made cruel ravages. Several armies and besieged

sieged garrisons in Germany, intercluded from fresh vegetables; and numbers of the new settlers in the northern colonies of America, and who were in nearly the same predicament, were cut off by the scurvy. The North Americans were at last taught by the Baltickers and Swedes the sovereign benefit of substituting spruce beer, when fresh vegetables cannot be found. The industrious Dutch made drains and canals to carry off water, and trusted the rest of the cure or prevention to pickled cabbages or sour crout. In the northern parts of Russia, where scurvy is very universal, they found a particular acidulated bread and sour drink, powerfully to resist this disease.

By these and other precautions, the scurvy is now much less formidable on land; but at sea no other, the nervous and putrid fever not excepted, is so inimical to navigators. On that element it is yet the devouring monster and tyrant. In the first voyages of our East India Company's ships, nearly one fourth of the crews died at sea. Nautical records teem with tragical narratives of scorbutic ravages. But at present, the causes and the
effectual

effectual antidotes, and the cure, are so well known, that the greatest part of the lives now lost by scurvy at sea, are either sacrificed to gross negligence, or to impolitic and inhuman economy. The temperature of sea air is more equal than that on land: and that it is not pernicious, we have an undoubted proof in one of the late Captain Cooke's voyages; wherein, with a company of 118 men, during a voyage of three years, and through all climates, from 52 degrees north to 71 south, he lost only one man by sickness.

From 1671 to 1686, the deaths by scurvy are in the London bills 9,451; but in the succeeding fifteen years, decrease to 569 only: and throughout the present century, continue progressively on the declension. Even of this trifling number, what proportion was engendered at sea, or whether they all died of genuine scurvy, I cannot decide. The theory of the last century imputed many diseases to this specific cacoethes, as they called it; which would have some influence on the searhers reports. In London, the lodgings are now warm and dry, and the people in general

tolerably well cloathed : animal meat is eat fresh ; vegetables, though perhaps not universally consumed in sufficient quantity, are certainly in much greater abundance than formerly : beer, fermented liquors, and tea, are drank by all ranks. All these, in conjunction with exercise, powerfully resist the tendency to scorbutic corruption.

The progressive gradations and virulence of scurvy, are distinguished under the three following stages : the countenance becomes pale, sickly, and bloated, with lassitude and aversion to motion, and debility, on any exercise. But the cardinal symptom is red, spongy, enlarged gums, from which, on being rubbed, blood issues, and the teeth begin to loosen and fall out ; the breath and urine are fetid ; and, by degrees, bruises and black spots are seen in various parts, especially the legs. In the next more aggravated stage, the tendons at the hams begin to contract and swell ; there are pains in different parts ; disposition to salivation and hemorrhages from the gums and nose, with increased debility and proneness to syncope. In the last and most inveterate stages, putrid ulcers are
formed,

formed, particularly in the legs, which are swelled and enlarged; or old cicatrices of former ulcers are dissolved, and again break out, from which issue a sanious and fetid discharge; and within them is generated fungous flesh, in consistence resembling a bullock's liver. Throughout there is no fever; nor is the disease contagious; neither are the appetite and senses impaired, except that there is great despondency and melancholy. The predisposing and occasional *causes* are cold and moisture, and subsisting long on dried, smoked, salted flesh meat or fish, without vegetables, or these in small quantity; putrid, and also gross diet difficultly digested, not perspirable; corrupted stagnant water; low marshy damp situations; cold situations; the winter season of northern climates: wet cold cloaths, beds, houses; insufficient or suppressed perspiration, hence the corrupted animal juices are not carried off; indolence, sedentary life, confinement, dejection of mind, melancholy; bad health; impurities of the blood; diseases of the spleen.

Scrofula, Struma, King's Evil. In the last thirty years of the preceding century, the mor-

tality by evil is only 2,126, in the London bills; and throughout the present century continues decreasing. This, however, is a very partial representation of its fatality, which in its consequence is far more destructive. The disease seldom appears under two years of age; commonly between three and seven, and sometimes not until near puberty; after which its evolution and first appearance is very rare. The children of fair hair, rosy cheeks, smooth skin, soft delicate complexion and temperament, are more obnoxious to scrofula than those of an opposite temperament. It is sometimes introduced by a tumid upper lip, and chop in the middle of it; at other times the first appearance is oval moveable tumours in the lymphatic glands of the neck, under the chin, or below the ears. These tumours often continue inert one, two, or more years, and without pain, until they tend towards suppuration; and are various in size, from a walnut to an egg, or larger. At length there is some fluctuation, ulceration, and exudation of viscid serum, but no concocted pus; the ulcers spread unequally; their edges are not callous; yet they are very tardy in cicatrizing. In this way there is a succession of

tumours

tumours and ulcers during several years; the former alternately subsiding whilst the ulcers are open; some cicatrizing, and others breaking out; and most so in the spring season.

Commonly after four or five years, or towards puberty, the cervical ulcers finally close, leaving behind indelible scars. This entailed alloy is often the source of bad health. Sometimes the eyes or eyelids are particularly afflicted with scrofulous ophthalmy. In other cases it excites tumours, deep seated abscesses, anchylosis, and caries in various joints of the elbow, fingers, knees, feet; or stubborn ulcers in different parts: and still more deleterious consequences ensue from scrofulous glands of the lungs or mesentery terminating in phthisis, or hectick. Some nations more than others, are afflicted with scrofula. I have read that it is not frequent in tropical climates; and it is not contagious. The predisposing and occasional *causes* are hereditary: diseases of the lymphatic glands; consequence of small pox: whether it is more prevalent in some countries than others from the air, water, diet, or other causes, is not yet ascertained.

Leprosy. A considerable part of the Mo-
saical code, politically and medically, is
pointed against this disease. It is now, in a
great degree, eradicated and worn out of Eu-
rope. After the Crusades, in the twelfth cen-
tury, Europe was overspread with this hideous
judaical scurf, imported from Palestine. La-
zarettoes for the confinement of the unclean,
were then numerous in many kingdoms: in
France alone there were two thousand. At
present, in the cold northern island, Iceland,
a sort of leprosy is congenial to the natives,
from their diet, climate, and mode of life.
And in the history of the late discoveries in
the Pacific Ocean, we read of a leprous scurf
infesting the natives, from their excessive in-
dulgence in a hot spice amongst their food. In
our island, at this day, a considerable num-
ber are afflicted with a disgusting cutaneous
scurf; but greatly inferior in virulence to the
Asiatic leprosy. The absolute mortality in
the London bills by this disease, is almost
undeserving of notice.

TO THE READER.

WE must here abruptly, and with regret, but for obvious reasons, the size to which this Publication is already swelled, cut off the remainder of our comments, amounting to nearly one hundred pages more. Those left behind unnoticed of the last group, comprehend most of the chronic cutaneous diseases, the subjects, peculiarly, of the Cosmetic Art. Through the last group of external accidents and diseases, I meant to have persevered in my general plan. For instance, under Gangrene, I should have discriminated the ages, mortality, cures; and at the same time, that originating from external injuries, or surgical operations, and that from spontaneous corruption. Under Fractures, I should have gauged the success and miscarriage of amputation, both after sudden accidents, and in consequence of chronic diseases. This is a most important part of military surgery, and I believe, in a great measure, unexplored. From the trepan and lithotomy, I should also have stated the blanks and prizes. With the surgical group I am obliged to omit the casualties of London: one alone of which I could not entirely postpone, without introducing a few observations in this place, that is the Executed,

Executed. Murder, robbery, sedition, and war, are amongst the principal political casualties, chronic distempers, fevers, and frenzies of every nation. In ascertaining the numbers executed, particularly, the London bills of mortality are shamefully erroneous and defective. As I thought it a casualty of infinite importance to be exactly stated and recorded, I made numerous efforts to procure authentic information, by successively and repeatedly waiting upon the Keeper of Newgate, the Clerk of the Arraignment, the Clerk of the Peace for the County, the Town-Clerk of London, the Sheriff's office of London, and the Secretary of State's. Throughout this inquiry I was every where treated with liberality and urbanity; and where there was any prospect of information, was permitted access to the records. But, to my astonishment and mortification, I could not find any vestige of records of executions in London before 1754. These were in the Clerk of Arraignment's office, but were buried in a heap of extraneous law rubbish; and to extract which, the Clerk of the Arraignment told me, it would require three entire days for myself and one of his clerks. I called twice at the Old Bailey, anxious to undertake
this

this task, however laborious; but it so happened, that at both times they were full of business in the office, and could not spare time, nor even room, for my inquiry. By other means, I have come near part of the truth. (*Vid.* CHART.)

The two first columns, from 1732 to 1762, are formed from an average of executions, during twenty-two years of that interval, by Sir Theodore Jansen, Chamberlain of London. The last column, of fifteen years, is formed from an average of the last seven years, with which Mr. Akerman politely furnished me, from his books. In consequence of the riots and conflagration in 1780, his records were all consumed, and do not include that year, wherein there was a notorious glut of executions. During the seven years, beginning with 1781, the executed in Mr. Akerman's books were 439. But every one knows that there are two theatres, a great and a small one, appropriated for human slaughter in this metropolis; these are Tyburn, now removed to Newgate; and for the large Borough of Southwark, Kennington Common. I took a low average of the executions in the latter, allotting three annually,

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to the two first columns, and fix to the last column, and added the whole together. Amongst the London malefactors there are a few pirates, whose crimes are cognizable in the Admiralty Court.

Two thirds, probably, of all those capitally condemned, are afterwards pardoned. Few, comparatively, of the executed have committed murder, not one in twenty; most of the rest are for robberies of various kinds. Many more are reported as murdered in the bills of mortality: but these are not cases of premeditated and malicious homicide, and are softened into manslaughter on trial. Nineteen out of twenty of the executed are males; and by far the greatest proportion between eighteen and forty years of age. What is the proportion of London executions to the whole nation, is a problem which perhaps our judges cannot unravel. They possibly, like the generality of physicians, drive and strut away, "*secundum artem*," in the beaten routine of their profession, without ever attending to a plain political and mercantile axiom, to state their transactions and accounts in numbers and figures. Vice and executions are universally
more

more prevalent in every metropolis: but there is reason to believe, that at present the executions throughout Britain and Ireland, are double or treble to those of London. The comparative population is as nine million to six hundred and fifty thousand. If they are treble, then 4000 are executed every fifteen years in the two islands; and 26,000 in a century: and both the disease and panacea are rapidly increasing. Five or six times this number are, in the same period, transported to distant regions, and partly also lost to the community, together with their blighted procreation.

We are struck with horror even on reading the history of savage jurisprudence, customs, and butchery of mankind in ancient times; such as the sanguinary codes of Draco and other regal monsters; the sacrifices to idols; the martyrs to gloomy fanaticism; the brutal spectacles of the Romans, wherein gladiators, lions and tygers, were exposed to tear each other to pieces. But I doubt whether, in the most flagitious and facinorous ages of Rome, the Tarpeian rock was besmeared with the blood of such a multitude of human victims; or
that

that in any part of the globe, from London to the Antipodes, out of an equal proportion of mankind, there are so many sacrifices annually made to violated jurisprudence; and to the modern idol, property and money! I meant to have contrasted the executed with those destroyed in wars, by the sword of the enemy (exclusive of diseases) during the present century; but the introduction would be here premature; nor could I launch out in sufficient illustration.

Besides the political patients doomed to the radical cure, or extermination, by the executioner, if we may credit one of our best writers, they are a mere handful compared to those who are consigned to a slow and lingering death. Dr. Johnson, in one of his excellent essays in the Rambler, against perpetual imprisonment for debt, calculates, that half a million of mankind are destroyed in a century in the prisons of Great Britain, by the complicated horror of confinement, sorrow, famine, filth, and disease; and to these I would add suicide. I am inclined, however, to believe, that Dr. Johnson's computation is exaggerated, by at least four hundred thousand.

thousand. By far the largest proportion of these are unfortunate sacrifices to poverty and misfortunes, and to the callous vindictiveness of avarice. In the juridical pharmacopœia, this may be compared to the hot iron and cautery of the coarse empiricks of antiquity; with which they outrageously and indiscriminately tortured their patients. It would not disgrace the christianity or humanity of our legislature and lawyers, were they to revise their catechism and breviary of jurisprudence, both as affecting life and liberty: or, throwing religion and humanity to one side, let the question be tried by commercial scales; and, like the Venetian Jew, human flesh estimated in ounces and pounds with brutes, metals, and chattels!

OF *the Institution of the London Bills of Births, Mortality, and Diseases; their Defects, besides those already pointed out; important and easy Improvements recommended.*

We shall now, with all possible brevity, enquire into the degrees of credibility and stability of the mathematical and medical data, furnished from the bills of mortality. The births, genealogies, procreation, multiplication, and deaths, of those few miracles of longevity, from Adam to Noah; from Noah's descendants down to Abraham, Moses, and Christ, are recorded in scripture: some chapters of Genesis are plain registers of births and mortality. The male Israelites, above twenty years of age, were, at distant intervals, mustered and numbered by Moses and his successors; and in a few uncommon pestilences, the devastation is ascertained in the Jewish history. The descent and pedigree of kings, and other great men, have also been kept in most nations, who had made any progress in civilization: but general annual registers of
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of births, diseases, and deaths, are modern establishments, and were unknown to the ancients.

On the continent of Europe, registers were instituted fifty or a hundred years before their introduction into England. In 1538, exact records of weddings, christenings, and burials, were first ordered by the King and council, to be kept in every parish church of England, by either the vicar or curate. But this order was very negligently obeyed in many parishes, until 1559, when, to prevent registers from rotting in damp churches, they were directed to be written on parchment. At first, they seem, both in Germany and England, to have been designed to prove the birth, death, and descent of individuals, and the right of inheritance in property or lands. In 1592, a year of pestilence, bills of mortality for London were instituted; but were discontinued until 1603, another year of pestilential desolation; which was the only distemper then taken notice of in the printed reports. In 1626, the different diseases and casualties of those who died in London, together with the distinction of the sexes, were added and published;

published; and in 1728, the different ages of the dead were ordered to be specified in the London bills. Upon first establishing the distinction of diseases and casualties in the bills of the British metropolis, the primary intention seems to have been, to distinguish the numbers destroyed by the plague, and to detect concealed murders.

Public records of births and mortality are now partly become the rules of political arithmetic: but unfortunately for politicians, calculators of annuities, and medical men, they are yet every where far too incorrect and incomplete. Registers of diseases and deaths in London are entrusted to old women, two of whom are nominated in each parish, and called Parish Searchers, and who consider, the ultimatum of their commission is merely to prevent private funerals and concealed murder. The whole business in London is conducted in the following manner: Upon either being sent for to inspect a corpse, or on hearing the bell toll, and inspecting the books kept in the different churches, the searchers are apprised from whence notice has been sent of a death, in order that a grave may be opened.

opened. The two parochial matrons then, whose industry is stimulated by a small fee on each corpse, and whose report is necessary previous to interment, set out to examine that no violence is committed upon the dead, of which they have taken an official oath to make true declaration, and afterwards negligently enquire from the relations the name of the disease, adding the age and sex : or sometimes they are stopped in the hall, and dismissed without any scrutiny. These records, together with the christenings, in the latter of which the searchers have no concern, are deposited with the respective clerks of each parish church, and by the clerks the christenings of the established church, and the burials in their respective parochial church-yards alone, are carried once every week to a general hall in the city : on the following day the weekly bill, comprehending these partial returns, is printed and published ; and at the end of the year a general bill, in which all the weekly returns are consolidated.

The law ordains, that every person who dies in the registered parishes of London, Westminster, and Southwark, is to be inspected

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by two parish searchers, and reported to the parish clerk, who then grants his certificate for the interment : or, if the corpse is carried away to a different parish of the metropolis for interment, the searchers report, and the clerk's certificate, are equally necessary ; otherwise that parish where the corpse is buried is liable to a fine. This process was originally intended to detect the plague, and concealed murders ; in both which respects, during the present century, the parish clerks and the searchers have been almost useless. There is now no plague to detect ; there are very few murders, and they are always proclaimed by some other means. Even in the preceding century, when the plague raged in London, the searchers report was rarely trusted without a physician or surgeon attending, to prevent mistakes.

Notwithstanding this ceremony of inspection by the searchers, and of making their reports to the parish clerk, it does not hence follow, that the clerk makes the return of the death to the general hall, *unless the corpse is buried in his own ground, or parochial churchyard.* If the corpse is carried to any dissent-
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ing ground, and to various other places of sepulture not within the bills, the death and disease is so much waste paper, and is never heard of amongst the burials. But if the corpse is carried to a different parish, together with a certificate, and such burying ground is registered within the bills, then the death and disease is returned to the hall by the clerk of that parish where the corpse is interred.

I made it my business to visit, and to converse with a variety of parish clerks in this metropolis, most of whom agreed with me, that, besides radical defects in the christenings and burials, there were many other gross omissions. One instance I shall mention, and many more might be collected. The parish clerk of Bethnal-green, in which are also three private madhouses, made no return to the general hall, during the year 1780, of either births or burials, and in the preceding year he returned only four burials: whereas in former years, this parish alone annually returned from three to five hundred burials. I was assured, that the company of parish clerks in their corporate capacity, even if willing, have no power of compulsion over any

of their refractory and negligent members, to make regular and correct returns: it seems almost optional. It is obvious what flagrant discordance and error this must occasion in various calculations.

Exclusive of gross mismanagement and error from searchers and parish clerks, there are other inherent defects in the London registers, both of burials and births. They comprehend the births alone of those belonging to the established church, and the burials of such only who are interred in the registered parochial church-yards. Jews, Quakers, Papists, Protestant Dissenters of various sects, are not included in the annual christenings; and great numbers of their burials, and of the burying-places not only of the dissenting, but likewise of the established church, are omitted: of the former 32, and of the latter 35, according to Short's list. Maitland, 1729, (see his History of London) discovered 181 religious congregations, whose christenings were not published, and 63 burying-places in and contiguous to the metropolis, wherein 3038 were annually buried, but excluded from the registers. The large modern and
populous

populous parishes of Pancras and Mary-le-bone, in one of which also stands the Foundling Hospital, are omitted in the annual bills. Six hundred abortive and stillborn, who have arrived at an age thought deserving of funeral, are added to the annual deaths, but omitted in the list of births; as are also many young infants who die before baptism.

I said, very few of the christenings of the dissenting sects in London were included in the public registers; but several of them are buried according to the formalities, or at least in the cemeteries of the established church; which must unnaturally magnify the comparative list of deaths. Another defect in the burials is, that numbers are carried into the country who are not accounted for: it is agreed, that several hundreds more are annually carried out of than are brought into London for interment. Most of the nobility and gentry are removed from London, after death, to their family seats. Dr. Price calculates the present annual deficiency in the London burials at 6000; and of the births somewhat greater; neither of which are brought to account in the registers.

The following is an average, which I have formed from the London bills of christenings and burials:

London bills at a medium annually.

| Years. | Christenings. | Burials. |
|-------------------|---------------|----------|
| From 1671 to 1681 | 12,325 | 19,144 |
| 1681 to 1691 | 14,439 | 22,363 |
| 1691 to 1700 | 14,938 | 20,770 |
| 1700 to 1710 | 15,623 | 21,461 |
| 1711 to 1720 | 17,111 | 23,990 |
| 1721 to 1730 | 18,203 | 27,522 |
| 1731 to 1740 | 16,831 | 26,492 |
| 1741 to 1750 | 14,457 | 25,351 |
| 1751 to 1756 | 15,119 | 21,080 |
| 1759 to 1768 | 15,710 | 22,956 |
| 1770 to 1780 | 17,218 | 21,000 |

The parishes, but not all the burial grounds in these parishes, now included within the London bills of mortality, amount to 147: of which there are 97 within the old city walls; 17 without the walls, but within the city liberties; 23 out parishes in Middlesex and Surry; and 10 out parishes in the city and liberties of Westminster. All the 97 parishes within the walls have not, for many years

years past, at a medium, buried 2000 annually: some of them do not make a return of a single burial in several years. We may name several parishes without the walls, any two of which united, return a number of annual deaths equal to the 97 parishes within the walls. In collecting and conducting the bills of these parishes, there is a rabble of 294 female searchers, and 147 parish clerks.

To render the returns of births, christenings, weddings, and burials in London complete, the clergyman of every religious sect should be compelled by law to make, every three months, a return of their christenings and weddings to the nearest parochial church. All the church-yards and burying grounds hitherto excluded from the bills, together with the parishes of Pancras, Mary-le-bone, and all the other modern additions and population to London, should likewise be comprehended in the registers; together with the numerous villages and excrescences of the metropolis, within seven miles of its circumference. The christenings should specify the name, sex, twins or tergemini, illegitimate if known, and the religious sect. The wed-

dings should discriminate the place of abode of the parties, the names and ages of each pair; whether first, second, or third marriages, and on which side; whether natives or foreigners, and the religious sect.

There appears at present no necessity to return weekly bills from the different parishes. This was originally intended to warn the London inhabitants of the numbers destroyed by the plague, and the infected parishes. Quarterly returns to the general hall would be sufficient; and one general annual bill, in which the quarterly mortality should be distinguished; in order to point out the seasons most noxious, and the reigning diseases; or to mark the hurricanes and monsoons of mortality. In infancy, and the early part of life, when the tide of devastation is strong and rapid, the mortality should be measured in shorter intervals. The first year from birth should be divided into interstices, from birth to six months, when teething commences; from six months to one year; from one to two; two to three; three to four; four to five; five to ten; ten to twenty; and so on to one hundred and upwards. Exclusive of abortions

abortions and stillborn, those who die in the first month before baptism, and of course cannot be included in the christenings, should be distinguished, in order to determine more accurately the amount of the births. Separate columns should be assigned for the name of the disease or casualty; for the cause, if known; and the duration of the affliction. Annexed to each disease should be the numbers dying at different ages of that malady. Males grown up to maturity who die, should be distinguished either as married, widowers, or bachelors; and females also of this description, either as married, widows, or virgins. Those carried out of London, or into it, for interment; the parochial children who die at nurse in the vicinity of the metropolis; the rank, profession, or trade; whether native or foreigner; should all appear in the general annual report in separate columns. The annual reports of all the hospitals, dispensaries, and prisons, and of the executed, should also be made to the hall, and included in the general annual register.

There are often objections and scruples to apply effectual remedies, or radical cures, to
ancient

ancient institutions, however defective and inadequate. There certainly is no necessity for such a cumbrous complex machinery, or multitude of parish searchers and clerks, for conducting the London bills. Indeed they might probably be all dispensed with. The reports of the relations of the deceased, or of the parish officers, to the curate of the different churches, would perhaps answer every purpose; and the perquisites would be a considerable addition to the clerical pittance. I mean, however, only to offer a simple, easy, and unexceptionable palliative; which is, to appoint a physician to superintend the general hall, and the reports of births, burials, and diseases: and the whole to be subjected to the inspection of a committee of the Medical College, or of the Royal or Medical Societies. This would give authenticity, credibility, and respectability to the registers. From such a rich mine, and an authentic magazine, the most important and beneficial information would be derived; the increase or decrease of deaths, marriages, and births; the annual waste of the metropolis; the health, mortality, the diseases most fatal, their growth or declension; the effects of diet, drink, and medical practice.

Calculators

Calculators of annuities, reversions, survivorships, and insurances, would then be supplied with certain, instead of conjectural data: at present this alone is a prodigious article of traffick and commerce in this country: much litigation and expence respecting births and deaths, and the right to inheritance, would also be prevented. In a word, a vast variety of most interesting medical and political propositions, which are entangled in intricacy and obscurity, would, by this means, be evolved, and indisputably demonstrated.

It is also most devoutly to be wished, for the health, comfort, and decency of the metropolis, that all, or at least the majority of the burying grounds, were ordered to be formed in some dry spots of ground at the different extremities of the city; and that the dead were more detached from the living. No one whose curiosity for information has led him to these melancholy wrecks of human vanity, and to behold the yawning mouths of sepulchres, can reflect without pain and astonishment, on the manner in which between twenty and thirty thousand
corpses

corpses are annually crammed into various holes, corners, public thoroughfares, and churches of this city: a feeling mind must shudder at, and shrink from the description. Nor can these cadaverous exhalations fail to pollute the air, and to engender diseases. Let the clerical revenue arising from graves be transferred to the new cemeteries.

We shall conclude, by pointing out the most celebrated treatises on human propagation, existence, mortality, and morbid devastation, by several philosophers. This is the epoch of a new science in politicks, philosophy, and medicine. Meritorious and successful efforts have been made to calculate the prospects of life and death, as the chances on dice, or the blanks and prizes in a lottery wheel. Graunt, somewhat later than the middle of the last century, first wrote a treatise on the London bills of births and mortality, and was followed soon after by Petty, King, and Davenant. The present century has produced several treatises on this subject; of which the most celebrated are Dr. Halley's; De Moivre's Treatises on Annuities and Chances; Sufmilch's Calculations; Simpson's

fon's Select Exercifes; ſome eſſays in the Philoſophical Tranſactions; Dr. Jurin on the Small Pox *only*; Dr. Short's Obſervations on various Bills of Mortality; M. Meſſance; Dr. Price's Eſſays, the Archimedes in annuitant and reverſionary calculation; Birch's Collection of the London Bills of Mortality to 1759; Dr. Percival's Eſſays; Dr. Millar's Calculations reſpecting the Diſeaſes of Great Britain, and Military Diſeaſes; and Dr. Robinſon's, reſpecting Maritime Diſeaſes.

Our curtain being now ready to fall, we ſhall addreſs a few words to the Reader. — The preſent Publication had its origin in ſo ſhort a time from the following circumſtance. About ſix months ago, the Preſident of the Medical Society of London called upon the author, at the deſire of the Society, to requeſt that he would deliver the annual oration, which was then fixed at four months diſtance only from that period: to which, with ſome reluctance, he conſented. Indeed, he conſidered the ſolicitation both as a compliment, and a literary challenge: becauſe, by the rules of the Society, one year's previous notice to the orator had been the invariable practice. In the execution

execution of this arduous and unprecedented attempt, the author is not ashamed to boast of industry and zeal. Were he to enumerate, in narrative and detail, the difficulties and fatigue which he had to encounter in collecting merely the materials of new information, he is persuaded that most gentlemen would have considered that alone sufficient exercise for their industry, patience, and perseverance during many months. Had he chosen to have followed the rhetorical path of the London College, his task would have been far less onerous. But notwithstanding the eminent talents scattered throughout that learned body, from Linacre down to Hulse, Winttingham, Baker, Warren, Turton, &c. their united catalogue of public declarations, however classical, have not much contributed to medical edification, or public utility.

F I N I S.

ERRATA.

Page 9, line 15, personl, *read* personal; p. 37, l. 21, science, *read* sciences; p. 42, l. 26, coctaneous, *read* cotaneous; p. 48, l. 17, Recherches, *read* recherches; p. 71, l. 3, and extravasated, *read* by extravasated; p. 114, l. 8, the face is overspread, *read* overspreading the face; p. 124, l. 20, pressing, *read* depressing; p. 198, l. 16, lactation, *read* ablactation; p. 224, l. 8, *read* sounds are scarcely audible; and there is confused noise in the ears; p. 220, l. 25 and 6, eyes, pharynx, tongue, *read* the eyes, the pharynx, the tongue; p. 229, l. 17, lucubrious, *read* lugubrious; p. 233, l. 20, remnant amongst, *read* remnant sunk amongst; p. 258, l. 5, its deficiency and excess, *read* deficiency and excess of its; p. 260, l. 7, Epididymis, *read* Epididymidis; p. 262, l. 9, scirrhou, *read* scirrhus; p. 279, l. 24, manbile, *read* morbile; p. 283, l. 12, consistence and size, *read* consistence, size, and number; p. 286, l. 13, lactation, *read* ablactation; p. 326, l. 13, muliri, *read* mulieri; p. 329, l. 9, debility with, *read* with debility.

1774
The following is a list of the names of the persons who were present at the meeting of the Board of Directors of the Bank of the Commonwealth, held on the 1st day of January, 1774, at the City of Philadelphia.

| Name | Rank or Office |
|-------------------|----------------|
| John B. Smith | President |
| James M. Jones | Vice President |
| Robert L. Brown | Secretary |
| William C. White | Treasurer |
| Thomas D. Green | Member |
| Charles E. Black | Member |
| John F. Gray | Member |
| James G. Hall | Member |
| Robert H. King | Member |
| William I. Lee | Member |
| Thomas J. Miller | Member |
| Charles K. Nelson | Member |
| John L. Oliver | Member |
| James M. Parker | Member |
| Robert N. Quinn | Member |
| William O. Reed | Member |
| Thomas P. Shaw | Member |
| Charles R. Taylor | Member |
| John S. Vance | Member |
| James T. Ward | Member |
| Robert U. Young | Member |
| William V. Zane | Member |

Attest: John B. Smith, President.